



EDITORIAL



Constant innovation, flexible production and a culture that is deeply rooted in reliability and dialog with Clients: these are the ingredients at the basis of our company's success, which today positions itself as the only 100% Italian producer of top-quality rubber hydraulic hoses for high and very high pressure. In our opinion, "Made in Italy" should be the expression of a value that goes beyond a simple mark of origin; it should be synonymous of a well-defined identity that is associated to universally recognized excellence and performance. Moreover, in a field characterized by a process of player concentration, our willingness to stay "independent" has enabled us to stand out from competitors, providing the market with custom solutions at an unrivaled lead time. Constantly keeping an eye on the future, we pursue a growth marked by our ability to pool competences as well as by our unconditional effort for an international and multidisciplinary cooperation. Quality starts from details and defines our work, as meeting market expectations also means designing unique and customized solutions. We thank our Clients for their constant trust, for the esteem and loyalty they show, trusting that they will continue to be the protagonists of our evolution, motivating us day after day as we face new challenges.

Giosiana and Heleanna de Stasio

40 YEARS OF INNOVATION

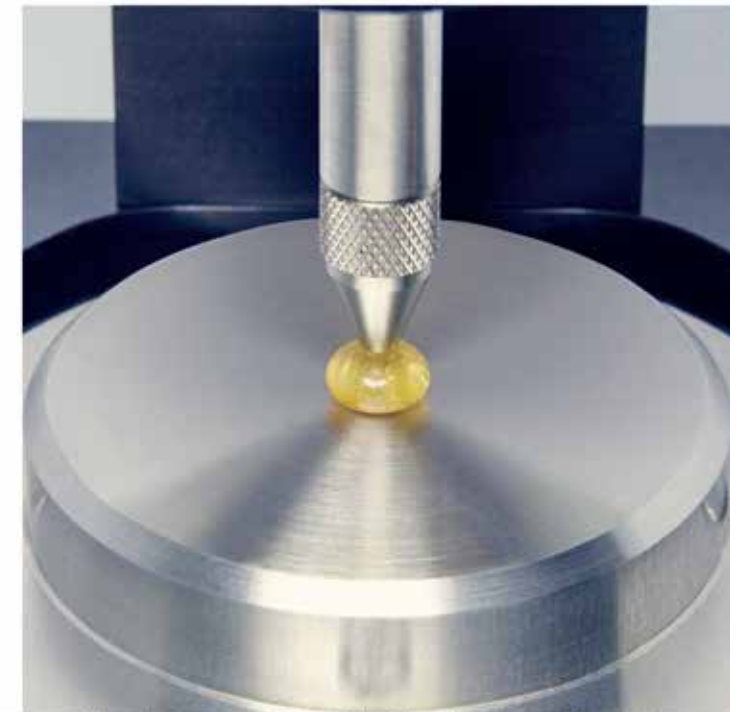
Founded in 1979 by the de Stasio family, the company has reached the top of its industry at international level thanks to its intuition, determination and foresight. This constant effort pools the expertise of multidisciplinary teams, technologies, and innovative materials with the strategic goal of transforming ideas in state-of-the-art products that are able to meet the needs of a dynamic, ever-evolving market. Clients are always at the heart of the company. They represent its strategic asset: a way of thinking, producing, and living, while improving in every single aspect, in order to best meet their needs and constantly award their trust. DIESSE's mission is to affirm its position as reference partner for Clients in the design and development of solutions that comply with high-quality standards, bear the "Made in Italy" brand, and are suitable to fully respond to any field of application. Today, the company plays an important role in the world of hydraulics thanks to a broad range of hoses for earth moving, agriculture, heavy industry, forest industry and other markets such as the civil, naval, offshore, and mineral ones.

THE STRENGTH OF NUMBERS

DIESSE Rubber Hoses S.p.A. is currently operating with a staff of approximately 200 employees and a production site located in Filago, in the province of Bergamo, extending over an overall surface of 90,000 m² (750,000 square feet). In the perspective of

enhancing production capacity by 30%, the company has just completed the construction of two new production sites with an overall investment of approximately 12 million euros. Product innovation has always been at the basis of DIESSE's development strategy; that's why the company reinvests approximately 8% of annual profits in Research & Development of both products and processes. The company boasts a production of over 12 million meter per year, with an ever-increasing turnover of over 30 million euros. This constant expansion is also the result of a vocation to internationalization. Through a consolidated network of Distributors, DIESSE is present in 52 countries, from North America to Europe, Asia, and Oceania, and exports 90% of its production, with the US as its main market. In an evolving economic setting, the primary anchor point for DIESSE is the ability to compete in any condition and under any circumstance, thanks to a synergistic and winning teamwork, paired with products and services that bring a significant added value.

**"DIESSE's mission
is to affirm its position
as reference partner
for Clients."**



SPECIALIZED IN SOLUTIONS



DIESSE Rubber Hoses pursues a market-pull approach to innovation, where the market serves as a propeller for technological progress; it promotes on one hand the continuous differentiation of ranges, and on the other hand production and distribution process efficiency. The company has direct control on the whole value chain, and thus favors a problem-solving process orientation, which ensures flexibility - an imperative when it comes to reducing time to market. As a matter of fact, the market requires increasingly high quality and maximum speed. This is why DIESSE has decided to adopt a vertical integration strategy, with the aim to further grow and retain the high-level know-how it has capitalized over years. There are multiple advantages to an integrated production process: strict criteria for raw material selection guarantee compliance with high standards, while performance assessment enables to set objectives for continuous improvement, favoring production also in small batches, optimizing operating margins, centralizing - and thus streamlining - the decision-making process. High Performances, Great Specialization, and Personalization represent the distinctive features at the basis of the company's growth.

“High Performances, Great Specialization, and Personalization represent the distinctive features at the basis of the company's growth.”

LEADING QUALITY

At DIESSE Rubber Hoses, the concept of quality has acquired an increasing number of new meanings over time, shaping up to be something that goes beyond the traditional concept of compliance linked to product features alone. It has become a structured, intentional, and measurable pathway involving the whole company in an integrated approach, according to the Total Quality Measurement strategy. At DIESSE, quality is a journey of growth, founded on customer satisfaction as the parameter to measure and enhance results and performances in terms of competitiveness and company excellence. Rigor is awarded and strict criteria for the selection of raw materials guarantee compliance with the high qualitative standards and the assessment of relevant performance allows to set objectives for continuous improvement. Details matter: this is why DIESSE certifies its products and constantly updates certifications, making them available to Clients for transparency. DIESSE combines technology and efficiency to live the value of innovation as an opportunity on a daily basis and over time.

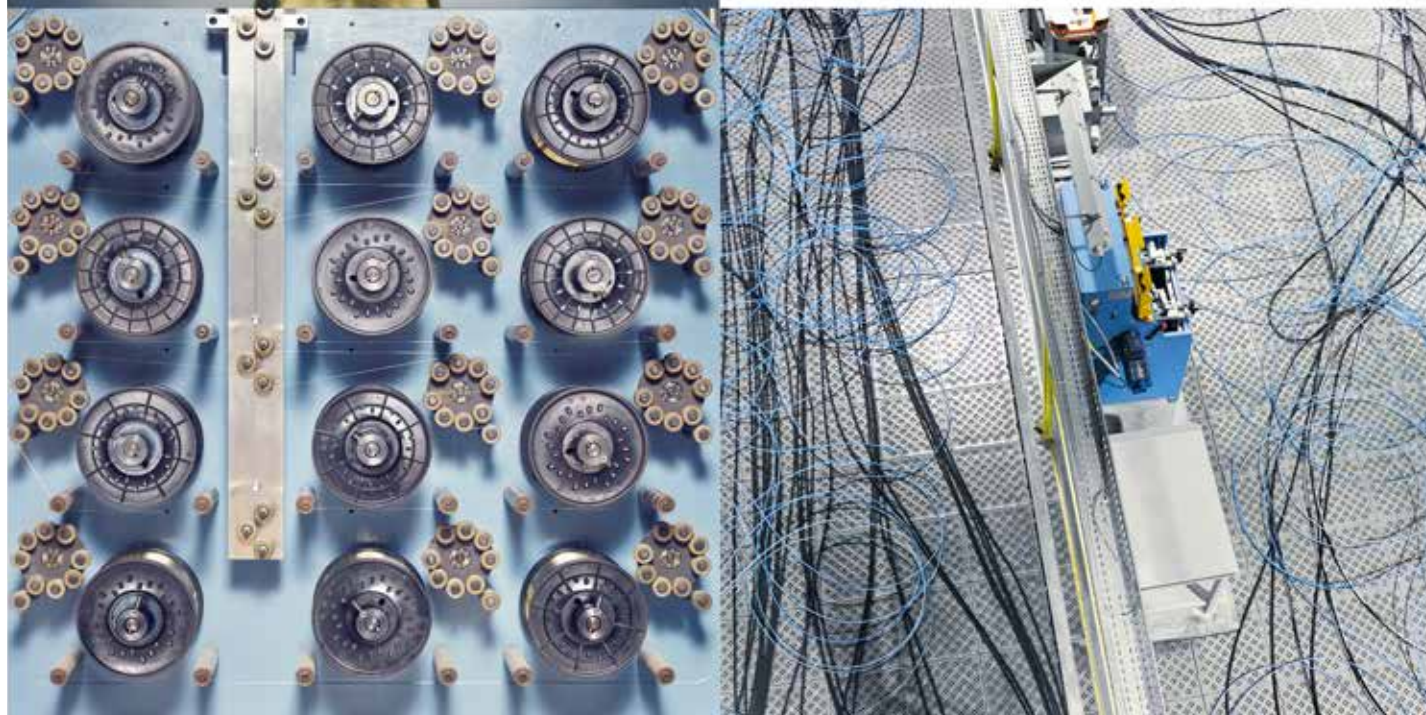
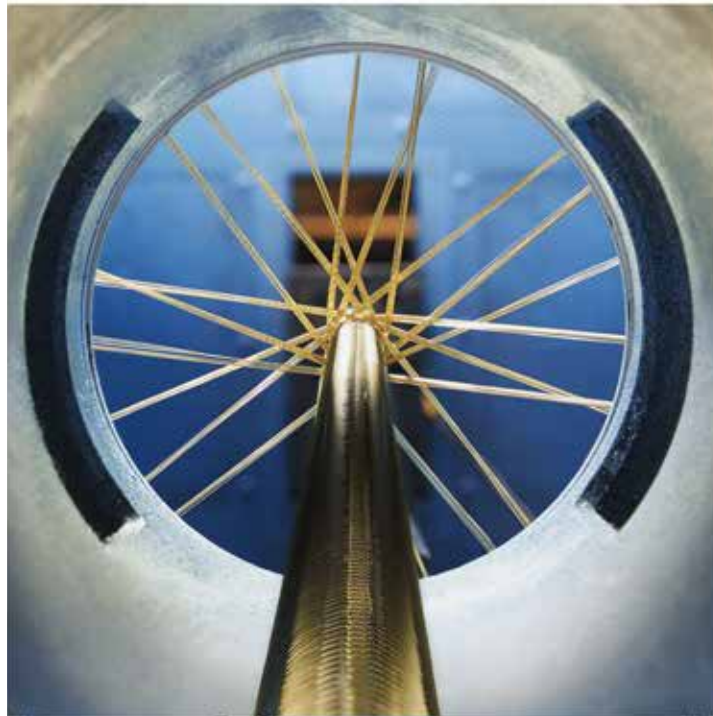
EXPERTISE AND KNOW-HOW, AT CLIENTS' SERVICE

DIESSE places the Client at the center of the organization: consulting becomes an invisible asset, from the idea to concept and executive stage. Thanks to its experience and know-how, DIESSE processes market signals and is able to develop the best product for each specific application it will be used for. Its expertise is rooted on value engineering activity, where design acquires a pro-active connotation, integrating different disciplines to achieve the best quality and performance results on the parameters indicated by the Client. The aim of this systematic approach is to increase the value of a product by identifying its relevant functions while guaranteeing the maximum logistics efficiency, as a differentiating factor to increase and consolidate Customers loyalty.

**“At DIESSE, quality is
a journey of growth,
founded on customer
satisfaction.”**



DIESSE GIVES SHAPE TO QUALITY



The added value of DIESSE lies in its constant incremental innovation, also inspired by Clients, that favors the synchronization of the design stage with production processes. Performing the production entirely in-house means that new technologies are tried and searched for internally, thus enhancing the company's know-how and the efficiency of its processes. The 400 m² (over 4,300 square ft) research and development laboratory, located within the company premises, was born in this setting; this strategic area enables the company to offer the maximum quality and reliability, both by verifying existing products, and by developing new, "tailor-made", and preventively tested prototypes. Each DIESSE hose has its own ID card: first, the choice of materials and compliance of each component with project specifications are verified. Then, during the production stage, the team of technicians records processes and frequency of verifications with a software. These data are collected in a dedicated document to guarantee full traceability. Lastly,

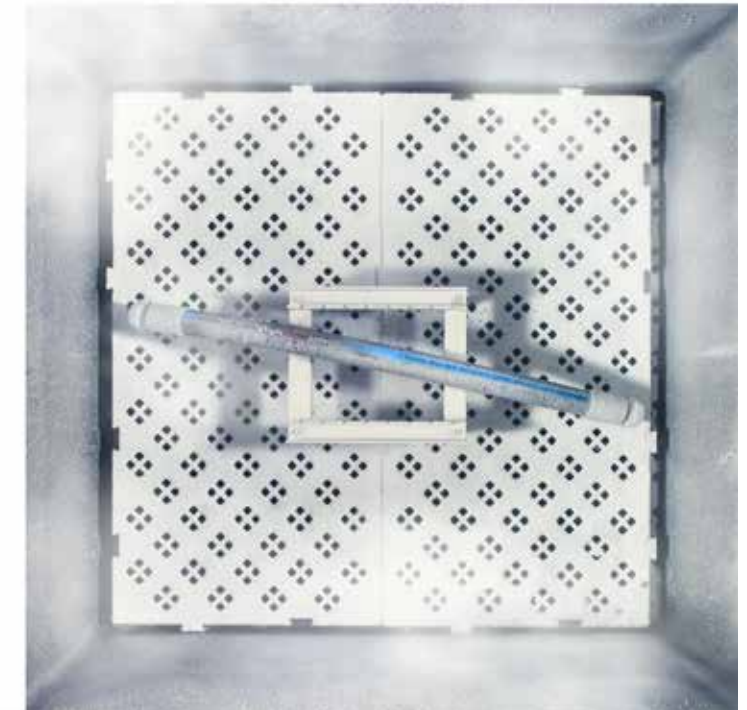
"100% of production undergoes a functional test."

100% of production undergoes a functional test for performance verification. The following tests conducted in compliance with EN 856 EN857 SAEJ517 regulations are particularly noteworthy: Hardness, Density, Tensile Strength, Elongation, Tear Strength, Full characterization of the compound, Ozone Test, Sun Test, Abrasion, Conductivity, Fire Test, ISO 15540, Aging Check, Compression Set, DSC, FIT IR, Bending and cold bending and Fire test API16D.

COMPLYING WITH THE STRICTEST STANDARDS

“DIESSE protect employees and visitors from work-related accidents and diseases.”

The numerous certifications obtained by DIESSE are a proof of its commitment in pursuing excellence in quality, with the aim of guaranteeing the full safeguard of Clients, as well as its workers' safety and health. Among the most important are: the new ISO 45001, which represents the first international standard to protect employees and visitors from work-related accidents and diseases; Organizational Model 231, introduced by the Italian legislative decree 231/01, that disciplines the responsibility of firms for law violations committed by CEOs, managers, employees, partners, or employees, while ISO 14001 certifies its environmental management system. Moreover, DIESSE Rubber Hoses is a company with a DNV UNI EN ISO 9001:2015 certified quality protocol. It has obtained approval for flexible hoses and assemblies by the American Bureau of Shipping, Det Norske Veritas, Lloyd's Register of Shipping, MSHA (Mine Safety and Health Administration) and US Department of Transportation. Lastly, it is certified by EU Directive on marine equipment 2014/90/UE.



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SPIRAL HOSES

The XFIGHT family completes the range of 4SP, 4SH, R12, R13 e R15 standard spiral hoses, which is characterized by high flexibility and a bend of radius that is half the standard. Particularly worth of note is FIGHT 500, which is available in a 5/8" to 1.1/4", for 500 bar working pressures. Spiral hoses are proposed in the BIO version, which is compatible with bio oils. Covers can be standard, abrasion-resistant, MSHA, and abrasion-resistant/MSHA combined.

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EXCEEDS SAE 100 R12 - EN 856 R12
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- 19 **XFIGHT 4SH** EXCEEDS EN 856 4SH
- 20 **DS12** SAE 100 R12 - EN 856 R12
- 20 **FIGHT R12**
EXCEEDS SAE 100 R12 - EN 856 R12
- 21 **DS13** SAE 100 R13 - EN 856 R13
- 21 **DS15** SAE 100 R15
- 22 **DS-4SP** EXCEEDS EN 856 4SP
- 22 **DS-4SH** EXCEEDS EN 856 4SH
- 23 **FIGHT 500** EXCEEDS SAE 100 R15



XFight 4000

EXCEEDS SAE 100 R12 - EN 856 R12



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
XFGT-4000-10-06	10	-6	9,5	3/8"	19,7	0.78	280	4100	1120	16400	65	2.50	0,60	0.40
XFGT-4000-12-08	12	-8	12,7	1/2"	22,7	0.89	280	4100	1120	16400	90	3.50	0,80	0.54
XFGT-4000-16-10	16	-10	15,9	5/8"	26,3	1.04	280	4100	1120	16400	100	4.00	0,95	0.64
XFGT-4000-19-12	19	-12	19,0	3/4"	30,0	1.18	280	4100	1120	16400	120	4.70	1,10	0.74
XFGT-4000-25-16	25	-16	25,4	1"	37,0	1.46	280	4100	1120	16400	150	5.90	1,40	0.94
XFGT-4000-31-20	31	-20	31,8	1.1/4"	44,6	1.76	280	4100	1120	16400	210	8.30	2,50	1.68
XFGT-4000-38-24	38	-24	38,1	1.1/2"	51,6	2.03	280	4100	1120	16400	290	11.40	3,10	2.08

Applications: Very high pressure hose, with high performance with half bend radius of SAE 100R12.
Higher flexibility compared with the conventional spiral hoses. Tested over 1.000.000 impulse cycles at 1.33% WP.
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Also available:

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Four high tensile steel spirals
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 121°C (125°C discontinuous)
-40°F to 250°F (257°F discontinuous)
Certifications:
DNV Type Approval
ABS Type Approval
MED

Version available:
MSHA COVER
MSHA HARC COVER
MSHA ENDLESS COVER
HARC COVER
ENDLESS COVER

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XFight 5000

EXCEEDS SAE 100 R13 - EN 856 R13



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
XFGT-5000-10-06	10	-6	9,5	3/8"	19,8	0.78	380	5500	1520	22000	65	2.50	0,60	0.40
XFGT-5000-12-08	12	-8	12,7	1/2"	22,8	0.90	380	5500	1520	22000	90	3.50	0,80	0.54
XFGT-5000-16-10	16	-10	15,9	5/8"	26,4	1.04	380	5500	1520	22000	100	4.00	0,95	0.64
XFGT-5000-19-12	19	-12	19,0	3/4"	30,1	1.19	380	5500	1520	22000	120	4.70	1,20	0.81
XFGT-5000-25-16	25	-16	25,4	1"	37,4	1.47	350	5100	1400	20400	150	5.90	1,80	1.21
XFGT-5000-31-20	31	-20	31,8	1.1/4"	44,8	1.76	350	5100	1400	20400	210	8.30	2,40	1.61
XFGT-5000-38-24	38	-24	38,1	1.1/2"	56,9	2.24	350	5100	1400	20400	300	11.80	4,60	3.09

Applications: Very high pressure hose, with high performance with half bend radius of SAE 100R13. Higher flexibility compared with the conventional spiral hoses. Tested over 1.000.000 impulse cycles at 1.33% WP (from -06 to -20) and 1.2% WP for -24. Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Also available:

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Four high tensile steel spirals up to -20, six spirals - 24
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 121°C (125°C discontinuous)
-40°F to 250°F (257°F discontinuous)
Certifications:
DNV Type Approval
ABS Type Approval
MED

Version available:
MSHA COVER
MSHA HARC COVER
MSHA ENDLESS COVER
HARC COVER
ENDLESS COVER

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XFight 6000

EXCEEDS SAE 100 R15



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
XFGT-6000-10-06	10	-6	9,5	3/8"	20,0	0.79	420	6100	1680	24400	65	2.50	0,65	0.44
XFGT-6000-12-08	12	-8	12,7	1/2"	23,0	0.91	420	6100	1680	24400	90	3.50	0,85	0.57
XFGT-6000-16-10	16	-10	15,9	5/8"	26,6	1.05	420	6100	1680	24400	100	4.00	1,00	0.67
XFGT-6000-19-12	19	-12	19,0	3/4"	30,6	1.20	420	6100	1680	24400	120	4.70	1,50	1.01
XFGT-6000-25-16	25	-16	25,4	1"	37,6	1.48	420	6100	1680	24400	150	5.90	2,00	1.34
XFGT-6000-31-20	31	-20	31,8	1.1/4"	49,3	1.94	420	6100	1680	24400	300	11.80	3,55	2.39
XFGT-6000-38-24	38	-24	38,1	1.1/2"	57,0	2.24	420	6100	1680	24400	350	13.80	4,65	3.12

Applications: Very high pressure hose, with high performance and half bend radius of SAE 100R15. Higher flexibility compared with conventional spiral hoses. Tested over 1.000.000 impulse cycles at 1.33% WP from -06 to -12 and 1.2% WP from -16 to -24. Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Also available:

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Four high tensile steel spirals up to -16, six spirals -20 and -24
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 121°C (125°C discontinuous)
-40°F to 250°F (257°F discontinuous)
Certifications:
DNV Type Approval
ABS Type Approval
MED

Version available:
MSHA COVER
MSHA HARC COVER
MSHA ENDLESS COVER
HARC COVER
ENDLESS COVER

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XFight 4SH

XCEEDS EN 856 4SH



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
XFGT-4SH-16-10	16	-10	15,9	5/8"	27,8	1.09	450	6500	1800	26000	100	4.00	1,40	0.94
XFGT-4SH-19-12	19	-12	19,0	3/4"	30,6	1.20	425	6150	1700	24600	120	4.70	1,60	1.08
XFGT-4SH-25-16	25	-16	25,4	1"	37,9	1.49	400	5800	1600	23200	150	5.90	2,00	1.34
XFGT-4SH-31-20	31	-20	31,8	1.1/4"	44,8	1.76	350	5100	1400	20400	210	8.30	2,50	1.68
XFGT-4SH-38-24	38	-24	38,1	1.1/2"	51,7	2.04	300	4350	1200	17400	280	11.00	3,10	2.08

Applications: Very high pressure hose, with high performance with half bend radius of EN 856 4SH. Higher flexibility compared with the conventional spiral hoses. Tested over 1.000.000 impulse cycles at 1.33% WP. Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Also available:

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Four high tensile steel spirals
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 121°C (125°C discontinuous)
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ENDLESS COVER

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DS12

SAE 100 R12 - EN 856 R12



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
R12-10-06	10	-6	9,5	3/8"	19,9	0.78	280	4100	1120	16400	125	5.0	0,69	0.46
R12-12-08	12	-8	12,7	1/2"	23,3	0.92	280	4100	1120	16400	180	7.09	0,85	0.57
R12-16-10	16	-10	15,9	5/8"	27,1	1.07	280	4100	1120	16400	200	7.87	1,04	0.70
R12-19-12	19	-12	19,0	3/4"	30,2	1.19	280	4100	1120	16400	240	9.45	1,22	0.82
R12-25-16	25	-16	25,4	1"	37,2	1.46	280	4100	1120	16400	300	11.81	1,84	1.23
R12-31-20	31	-20	31,8	1.1/4"	46,4	1.83	210	3000	840	12000	420	16.54	2,55	1.71
R12-38-24	38	-24	38,1	1.1/2"	52,8	2.08	175	2500	700	10000	500	19.69	3,16	2.12
R12-51-32	51	-32	50,8	2"	66,7	2.63	175	2500	700	10000	630	24.80	3,96	2.66

Applications: Very high pressure hose for severe hydraulic pulsing applications .
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Four high tensile steel spirals
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 121°C (125°C discontinuous)
-40°F to 250°F (257°F discontinuous)
Certifications:
DNV Type Approval
ABS Type Approval
MED

Version available:
MSHA COVER
MSHA HARC COVER
MSHA ENDLESS COVER
HARC COVER
ENDLESS COVER

See page. 92

Also available:

Fight R12

EXCEEDS SAE 100 R12 - EN 856 R12



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
FGT12-10-06	10	-6	9,5	3/8"	19,9	0.78	350	5100	1400	20400	125	5.0	0,71	0.48
FGT12-12-08	12	-8	12,7	1/2"	23,3	0.92	350	5100	1400	20400	180	7.09	0,87	0.58
FGT12-16-10	16	-10	15,9	5/8"	27,1	1.07	350	5100	1400	20400	200	7.87	1,05	0.71
FGT12-19-12	19	-12	19,0	3/4"	30,2	1.19	350	5100	1400	20400	240	9.45	1,30	0.87
FGT12-25-16	25	-16	25,4	1"	37,2	1.46	350	5100	1400	20400	300	11.81	1,90	1.28
FGT12-31-20	31	-20	31,8	1.1/4"	46,4	1.83	280	4000	1120	16000	420	16.54	2,60	1.75
FGT12-38-24	38	-24	38,1	1.1/2"	52,8	2.08	255	3700	1020	14800	500	19.69	3,20	2.15

Applications: Very high pressure hose for severe hydraulic pulsing applications.
Exceeds SAE 100R12 performance.
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Four high tensile steel spirals
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 121°C (125°C discontinuous)
-40°F to 250°F (257°F discontinuous)
Certifications:
DNV Type Approval
ABS Type Approval
MED

Version available:
MSHA COVER
MSHA HARC COVER
MSHA ENDLESS COVER
HARC COVER
ENDLESS COVER

See page. 92

Also available:

DS13

SAE 100 R13 - EN 856 R13



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
R13-19-12	19	-12	19,0	3/4"	32,0	1.26	350	5100	1400	20400	240	9.45	1,50	1.01
R13-25-16	25	-16	25,4	1"	38,3	1.51	350	5100	1400	20400	300	11.81	2,15	1.44
R13-31-20	31	-20	31,8	1.1/4"	49,5	1.95	350	5100	1400	20400	420	16.54	3,55	2.39
R13-38-24	38	-24	38,1	1.1/2"	56,9	2.24	350	5100	1400	20400	500	19.69	4,60	3.09
R13-51-32	51	-32	50,8	2"	71,1	2.80	350	5100	1400	20400	630	24.80	6,35	4.27

Applications: Very high pressure hose for severe hydraulic pulsing applications.
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Four high tensile steel spirals up to -16, six spirals -20 and -24
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 121°C (125°C discontinuous)
-40°F to 250°F (257°F discontinuous)
Certifications:
DNV Type Approval
ABS Type Approval
MED

Version available:
MSHA COVER
MSHA HARC COVER
MSHA ENDLESS COVER
HARC COVER
ENDLESS COVER

See page. 92

Also available:

DS15

SAE 100 R15



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
R15-10-06	10	-6	9,5	3/8"	19,8	0.78	420	6100	1680	24400	150	5.91	0,72	0.48
R15-12-08	12	-8	12,7	1/2"	22,8	0.90	420	6100	1680	24400	200	7.87	0,95	0.64
R15-16-10	16	-10	15,9	5/8"	28,0	1.10	420	6100	1680	24400	230	9.06	1,16	0.78
R15-19-12	19	-12	19,0	3/4"	31,8	1.25	420	6100	1680	24400	265	10.43	1,50	1.01
R15-25-16	25	-16	25,4	1"	38,0	1.50	420	6100	1680	24400	300	11.81	2,00	1.34
R15-31-20	31	-20	31,8	1.1/4"	49,5	1.95	420	6100	1680	24400	350	13.78	3,55	2.39
R15-38-24	38	-24	38,1	1.1/2"	56,9	2.24	420	6100	1680	24400	420	16.54	4,65	3.12

Applications: Very high pressure hose for severe hydraulic pulsing applications.
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Four high tensile steel spirals up to -16, six spirals -20 and -24
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 121°C (125°C discontinuous)
-40°F to 250°F (257°F discontinuous)
Certifications:
DNV Type Approval
ABS Type Approval
MED

Version available:
MSHA COVER
MSHA HARC COVER
MSHA ENDLESS COVER
HARC COVER
ENDLESS COVER

See page. 92

Also available:



DS-4SP

EXCEEDS EN 856 4SP



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
4SP-06-04	6	-4	6,4	1/4"	17,6	0.69	500	7250	2000	29000	150	5.91	0,60	0.40
4SP-10-06	10	-6	9,5	3/8"	19,9	0.78	460	6700	1840	26800	180	7.09	0,70	0.47
4SP-12-08	12	-8	12,7	1/2"	23,8	0.94	440	6400	1760	25600	230	9.06	0,90	0.60
4SP-16-10	16	-10	15,9	5/8"	27,6	1.08	400	5800	1600	23200	250	9.84	1,10	0.74
4SP-19-12	19	-12	19,0	3/4"	31,9	1.26	380	5500	1520	22000	300	11.81	1,50	1.01
4SP-25-16	25	-16	25,4	1"	39,4	1.55	325	4700	1300	18800	340	13.39	2,00	1.34
4SP-31-20	31	-20	31,8	1.1/4"	50,3	1.98	240	3500	960	14000	460	18.11	3,10	2.08
4SP-38-24	38	-24	38,1	1.1/2"	56,7	2.23	210	3000	840	12000	560	22.05	3,60	2.42
4SP-51-32	51	-32	50,8	2"	69,8	2.75	165	2400	660	9600	660	25.98	4,40	2.96

Applications: Very high pressure hose for severe hydraulic pulsing applications. Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Four high tensile steel spirals
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 121°C (125°C discontinuous)
-40°F to 250°F (257°F discontinuous)
Certifications:
DNV Type Approval
ABS Type Approval
MED

Version available:
MSHA COVER
MSHA HARC COVER
MSHA ENDLESS COVER
HARC COVER
ENDLESS COVER

See page. 92

Also available:

DS-4SH

EXCEEDS EN 856 4SH



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
4SH-16-10	16	-10	15,9	5/8"	28,30	1.11	450	6500	1800	26000	250	9.84	1,35	0.91
4SH-19-12	19	-12	19,0	3/4"	31,70	1.25	425	6150	1700	24600	280	11.02	1,50	1.01
4SH-25-16	25	-16	25,4	1"	38,10	1.50	400	5800	1600	23200	340	13.39	2,00	1.34
4SH-31-20	31	-20	31,8	1.1/4"	45,00	1.77	350	5100	1400	20400	460	18.11	2,45	1.65
4SH-38-24	38	-24	38,1	1.1/2"	52,20	2.06	300	4350	1200	17400	560	22.05	3,00	2.02
4SH-51-32	51	-32	50,8	2"	68,10	2.68	250	3625	1000	14500	700	27.56	4,50	3.02

Applications: Very high pressure hose for severe hydraulic pulsing applications. Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Four high tensile steel spirals
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 121°C (125°C discontinuous)
-40°F to 250°F (257°F discontinuous)
Certifications:
DNV Type Approval
ABS Type Approval
MED

Version available:
MSHA COVER
MSHA HARC COVER
MSHA ENDLESS COVER
HARC COVER
ENDLESS COVER

See page. 92

Also available:

FIGHT 500

EXCEEDS SAE 100 R15



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
500-16-10	16	-10	15,9	5/8"	28,4	1.12	500	7250	2000	29000	200	7.87	1,35	0.91
500-19-12	19	-12	19,0	3/4"	32,0	1.26	500	7250	2000	29000	215	8.46	1,55	1.04
500-25-16	25	-16	25,4	1"	39,0	1.53	500	7250	2000	29000	270	10.63	2,10	1.41
500-31-20	31	-20	31,8	1.1/4"	51,0	2.01	500	7250	2000	29000	380	14.96	3,90	2.62

Applications: Very high pressure hose for severe hydraulic pulsing applications. Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Four high tensile steel spirals up to -16, six spirals -20
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 121°C (125°C discontinuous)
-40°F to 250°F (257°F discontinuous)

Version available:
MSHA COVER
MSHA HARC COVER
MSHA ENDLESS COVER
HARC COVER
ENDLESS COVER

See page. 92

Also available:



BRAIDED HOSES

This range includes, in addition to standard SAE and EN compliant braided hoses, FIGHTER hoses, which are characterized by superior performance in terms of working pressure and bend radius. STARK hoses are also noteworthy, thanks to their ability to withstand even higher working pressure. The line includes three wire braid hoses R5 and jack hose.

- 26 **DS1-T** SAE 100 R1AT - EN 853 1SN
- 27 **DS2-T** SAE 100 R2AT - EN 853 2SN
- 28 **FIGHTER 1SC** EXCEEDS EN 857 1SC
- 28 **1 STARK** EXCEEDS EN 857 1SC
- 29 **DS17** SAE 100 R17
- 29 **FIGHTER R17** EXCEEDS SAE 100 R17
- 30 **DS2SC/R16** SAE 100 R16 - EN 857 2SC
- 30 **FIGHTER DS2SC/R16**
EXCEEDS SAE 100 R16 - EN 857 2SC
- 31 **2 STARK** EXCEEDS SAE 100 R16 - EN 857 2SC
- 31 **MASTER** EXCEEDS SAE 100 R16 - EN 857 2SC
- 32 **DS19** SAE 100 R19
- 32 **FORTIUS 1** EXCEEDS SAE 100 R1AT - EN 853 1SN
- 33 **OVERMASTER**
- 33 **BIOFOREST** THREE WIRE BRAIDS HOSE
- 34 **DS5** SAE 100 R5
- 35 **LEAN LINE**
- 35 **JACK HOSE**
- 36 **DS-2TE** EN 854 2TE
- 36 **DS-3TE** EN 854 3TE
- 37 **PUSH-ON**
- 37 **DS6/1TE** SAE 100 R6 / EN 854
- 38 **DS3** SAE 100 R3
- 38 **DS4** SAE 100 R4
- 39 **DS7** SAE 100 R7 EN855 R7
- 39 **DS8** SAE 100 R8 EN855 R8
- 40 **DYTREL 1**
- 41 **DYTREL 2**



DS1-T

SAE 100 R1AT - EN 853 1SN



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
1SN-05-03	05	-3	4,8	3/16"	11,5	0.45	250	3650	1000	14600	90	3.50	0,17	0.11
1SN-06-04	06	-4	6,4	1/4"	12,8	0.50	225	3250	900	13000	100	4.00	0,21	0.14
1SN-08-05	08	-5	7,9	5/16"	14,4	0.57	215	3100	860	12400	115	4.50	0,26	0.18
1SN-10-06	10	-6	9,5	3/8"	16,9	0.67	180	2600	720	10400	125	4.92	0,32	0.22
1SN-12-08	12	-8	12,7	1/2"	19,9	0.78	160	2300	640	9200	180	7.09	0,37	0.25
1SN-16-10	16	-10	15,9	5/8"	23,1	0.91	130	1900	520	7600	205	8.07	0,43	0.29
1SN-19-12	19	-12	19,0	3/4"	27,1	1.07	105	1500	420	6000	240	9.45	0,51	0.34
1SN-25-16	25	-16	25,4	1"	35,1	1.38	87	1300	348	5200	300	11.81	0,83	0.56
1SN-31-20	31	-20	31,8	1.1/4"	42,5	1.67	62	900	248	3600	420	16.53	1,13	0.76
1SN-38-24	38	-24	38,1	1.1/2"	50.0	1.96	50	725	200	2900	500	19.69	1,44	0.97
1SN-51-32	51	-32	50,8	2"	63,9	2.52	40	580	160	2320	630	24.80	2,27	1.52

Applications: Medium pressure hose for hydraulic applications.
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: One high tensile steel braid
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 121°C (125°C discontinuous)
-40°F to 250°F (257°F discontinuous)
Certifications:
DNV Type Approval
ABS Type Approval
MED

Version available:
MSHA COVER
MSHA HARC COVER
MSHA ENDLESS COVER
HARC COVER
ENDLESS COVER

See page. 92

DS2-T

SAE 100 R2AT - EN 853 2SN



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
2SN-05-03	05	-3	4,8	3/16"	13,1	0.52	415	6000	1660	24000	90	3.54	0,27	0.18
2SN-06-04	06	-4	6,4	1/4"	14,3	0.56	400	5800	1600	23200	100	3.94	0,31	0.21
2SN-08-05	08	-5	7,9	5/16"	16,0	0.63	350	5100	1400	20400	115	4.53	0,41	0.28
2SN-10-06	10	-6	9,5	3/8"	18,4	0.72	330	4800	1320	19200	125	4.92	0,48	0.32
2SN-12-08	12	-8	12,7	1/2"	21,3	0.84	275	4000	1100	16000	180	7.09	0,55	0.37
2SN-16-10	16	-10	15,9	5/8"	24,7	0.97	250	3600	1000	14400	205	8.07	0,67	0.45
2SN-19-12	19	-12	19,0	3/4"	28,6	1.13	215	3100	860	12400	240	9.45	0,82	0.55
2SN-25-16	25	-16	25,4	1"	37,2	1.46	165	2400	660	9600	300	11.81	1,21	0.81
2SN-31-20	31	-20	31,8	1.1/4"	46,7	1.84	125	1800	500	7200	420	16.54	1,82	1.22
2SN-38-24	38	-24	38,1	1.1/2"	53,7	2.11	90	1300	360	5200	500	19.69	2,36	1.58
2SN-51-32	51	-32	50,8	2"	67,0	2.64	80	1150	320	4600	630	24.80	2,86	1.92

Applications: High pressure hose for hydraulic applications.
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Two high tensile steel braids
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 121°C (125°C discontinuous)
-40°F to 250°F (257°F discontinuous)
Certifications:
DNV Type Approval
ABS Type Approval
MED

Version available:
MSHA COVER
MSHA HARC COVER
MSHA ENDLESS COVER
HARC COVER
ENDLESS COVER

See page. 92



Fighter 1SC

EXCEEDS EN 857 1SC



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
FGT1SC-06-04	06	-4	6,4	1/4"	12,1	0.48	275	4000	1100	16000	45	1.77	0,18	0.12
FGT1SC-08-05	08	-5	7,9	5/16"	14,0	0.55	255	3700	1020	14800	55	2.17	0,23	0.15
FGT1SC-10-06	10	-6	9,5	3/8"	15,8	0.62	215	3100	860	12400	60	2.36	0,27	0.18
FGT1SC-12-08	12	-8	12,7	1/2"	19,4	0.76	170	2500	680	10000	70	2.76	0,36	0.24
FGT1SC-16-10	16	-10	15,9	5/8"	22,6	0.89	150	2200	600	8800	90	3.54	0,41	0.28
FGT1SC-19-12	19	-12	19,0	3/4"	26,3	1.04	125	1800	500	7200	100	3.94	0,53	0.36
FGT1SC-25-16	25	-16	25,4	1"	33,7	1.33	100	1450	400	5800	160	6.30	0,76	0.51
FGT1SC-31-20	31	-20	31,8	1.1/4"	41,0	1.61	90	1300	360	5200	210	8.27	1,05	0.71

Applications: Medium pressure hose with extreme flexibility.
Recommended for hydraulic applications where a tighter bend radius is needed.
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: One high tensile steel braid
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 121°C (125°C discontinuous)
-40°F to 250°F (257°F discontinuous)
Certifications:
DNV Type Approval

Version available:
MSHA COVER
MSHA HARC COVER
MSHA ENDLESS COVER
HARC COVER
ENDLESS COVER

See page. 92

1 Stark

EXCEEDS EN 857 1SC



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
1STK-06-04	06	-4	6,4	1/4"	11,9	0.47	295	4300	1180	17200	40	1.60	0,18	0.12
1STK-08-05	08	-5	7,9	5/16"	13,5	0.53	250	3650	1000	14600	55	2.20	0,21	0.14
1STK-10-06	10	-6	9,5	3/8"	15,5	0.61	230	3350	920	13400	65	2.60	0,27	0.18
1STK-12-08	12	-8	12,7	1/2"	18,5	0.73	200	2900	800	11600	80	3.20	0,34	0.23
1STK-16-10	16	-10	15,9	5/8"	22,1	0.87	150	2200	600	8800	105	4.20	0,39	0.26
1STK-19-12	19	-12	19,0	3/4"	26,1	1.03	125	1800	500	7200	120	4.80	0,52	0.35
1STK-25-16	25	-16	25,4	1"	33,3	1.31	110	1600	440	6400	160	6.40	0,74	0.50
1STK-31-20	31	-20	31,8	1.1/4"	41,0	1.61	100	1450	400	5800	300	12.00	0,95	0.64

Applications: High pressure compact hose with greater flexibility.
Exceeding EN 857 1SC.
Recommended for hydraulic applications where a high pressure and a tighter bend radius is needed.
Approved at 700.000 impulse cycles at 1,25% WP
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: One high tensile steel braid
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 121°C (125°C discontinuous)
-40°F to 250°F (257°F discontinuous)

Version available:
MSHA COVER
MSHA HARC COVER
MSHA ENDLESS COVER
HARC COVER
ENDLESS COVER

See page. 92

DS17

SAE 100 R17



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
117-06-04	06	-4	6,4	1/4"	12,3	0.48	210	3000	840	12000	50	1.97	0,18	0.12
117-08-05	08	-5	7,9	5/16"	14,0	0.55	210	3000	840	12000	55	2.17	0,21	0.14
117-10-06	10	-6	9,5	3/8"	15,9	0.63	210	3000	840	12000	65	2.56	0,27	0.18
117-12-08	12	-8	12,7	1/2"	19,1	0.75	210	3000	840	12000	90	3.54	0,38	0.26
117-16-10	16	-10	15,9	5/8"	23,9	0.94	210	3000	840	12000	100	3.94	0,64	0.43
117-19-12	19	-12	19,0	3/4"	28,0	1.10	210	3000	840	12000	120	4.72	0,80	0.54
117-25-16	25	-16	25,4	1"	35,3	1.39	210	3000	840	12000	150	5.91	1,15	0.77
117-31-20	31	-20	31,8	1.1/4"	44,6	1.76	210	3000	840	12000	200	7.87	2,45	1.65
117-38-24	38	-24	38,1	1.1/2"	51,6	2.03	210	3000	840	12000	250	9.84	3,00	2.03

Applications: Compact hose for medium pressure application with extreme flexibility.
Meet SAE 100R17 performance.
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: one high tensile steel braid up to -8, two braids from -10 to -16 and 4 spirals -20 and -24
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 121°C (125°C discontinuous)
-40°F to 250°F (257°F discontinuous)
Certifications:
DNV Type Approval

Version available:
MSHA COVER
MSHA HARC COVER
MSHA ENDLESS COVER
HARC COVER
ENDLESS COVER

See page. 92

Fighter R17

EXCEEDS SAE 100 R17



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
FGT17-06-04	06	-4	6,4	1/4"	12,3	0.48	225	3250	900	13000	38	1.50	0,19	0.13
FGT17-08-05	08	-5	7,9	5/16"	14,0	0.55	225	3250	900	13000	45	1.77	0,23	0.15
FGT17-10-06	10	-6	9,5	3/8"	15,9	0.63	225	3250	900	13000	50	1.97	0,29	0.19
FGT17-12-08	12	-8	12,7	1/2"	19,1	0.75	225	3250	900	13000	71	2.80	0,38	0.26
FGT17-16-10	16	-10	15,9	5/8"	23,9	0.94	225	3250	900	13000	71	2.80	0,65	0.44
FGT17-19-12	19	-12	19	3/4"	28,0	1.10	225	3250	900	13000	95	3.74	0,82	0.55
FGT17-25-16	25	-16	25,4	1"	35,3	1.39	225	3250	900	13000	114	4.49	1,16	0.78

Applications: Compact hose for medium pressure application with extreme flexibility.
Meet SAE 100R17 performance.
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: One high tensile steel braid up to -8, two braids from -10 to -16
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 121°C (125°C discontinuous)
-40°F to 250°F (257°F discontinuous)

Version available:
MSHA COVER
MSHA HARC COVER
MSHA ENDLESS COVER
HARC COVER
ENDLESS COVER

See page. 92



DS 2SC/R16

SAE 100 R16 - EN 857 2SC



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
2SC-06-04	06	-4	6,4	1/4"	13,2	0.52	400	5800	1600	23200	50	1.96	0,25	0.17
2SC-08-05	08	-5	7,9	5/16"	15,1	0.59	350	5000	1400	20000	55	2.16	0,30	0.20
2SC-10-06	10	-6	9,5	3/8"	16,7	0.66	330	4800	1320	19200	65	2.55	0,40	0.27
2SC-12-08	12	-8	12,7	1/2"	20,2	0.80	275	4000	1100	16000	90	3.54	0,50	0.34
2SC-16-10	16	-10	15,9	5/8"	24,0	0.94	250	3600	1000	14400	100	3.93	0,55	0.37
2SC-19-12	19	-12	19,0	3/4"	27,8	1.09	215	3100	860	12400	120	4.72	0,75	0.50
2SC-25-16	25	-16	25,4	1"	35,1	1.38	165	2400	660	9600	150	5.90	1,10	0.74
2SC-31-20	31	-20	31,8	1.1/4"	43,6	1.72	125	1800	500	7200	210	8.27	1,60	1.07

Applications: High pressure hose with extreme flexibility. Recommended for hydraulic applications where a tighter bend radius is needed. Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Two high tensile steel braids
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 121°C (125°C discontinuous)
-40°F to 250°F (257°F discontinuous)
Certifications:
DNV Type Approval
ABS Type Approval
MED

Version available:
MSHA COVER
MSHA HARC COVER
MSHA ENDLESS COVER
HARC COVER
ENDLESS COVER

See page. 92

Fighter DS 2SC/R16

EXCEEDS SAE 100 R16 - EN 857 2SC



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
FGT16-06-04	06	-4	6,4	1/4"	13,2	0.52	420	6100	1680	24400	45	1.77	0,30	0.20
FGT16-08-05	08	-5	7,9	5/16"	15,2	0.60	380	5500	1520	22000	55	2.17	0,35	0.24
FGT16-10-06	10	-6	9,5	3/8"	16,7	0.66	350	5100	1400	20400	65	2.56	0,40	0.27
FGT16-12-08	12	-8	12,7	1/2"	20,2	0.80	310	4500	1240	18000	80	3.15	0,55	0.37
FGT16-16-10	16	-10	15,9	5/8"	24,0	0.94	280	4100	1120	16400	90	3.54	0,60	0.40
FGT16-19-12	19	-12	19,0	3/4"	27,8	1.09	240	3500	960	14000	120	4.72	0,80	0.54
FGT16-25-16	25	-16	25,4	1"	35,1	1.38	185	2700	740	10800	150	5.91	1,15	0.77
FGT16-31-20	31	-20	31,8	1.1/4"	43,6	1.72	165	2400	660	9600	210	8.27	1,70	1.14
FGT16-38-24	38	-24	38,1	1.1/2"	50,4	1.98	135	2000	540	8000	250	9.84	1,95	1.31

Applications: Very high pressure hose with extreme flexibility. Exceeding SAE 100R16 – EN 857 2SC. Recommended for hydraulic applications where a tighter bend radius is needed. Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Two high tensile steel braids
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 121°C (125°C discontinuous)
-40°F to 250°F (257°F discontinuous)
Certifications:
DNV Type Approval
ABS Type Approval
MED

Version available:
MSHA COVER
MSHA HARC COVER
MSHA ENDLESS COVER
HARC COVER
ENDLESS COVER

See page. 92

2 Stark

EXCEEDS SAE 100 R16 - EN 857 2SC



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
2STK-06-04	06	-4	6,4	1/4"	13,1	0.52	450	6500	1800	26000	45	1.77	0,30	0.20
2STK-08-05	08	-5	7,9	5/16"	14,8	0.58	420	6100	1680	24400	60	2.36	0,32	0.22
2STK-10-06	10	-6	9,5	3/8"	16,5	0.65	390	5650	1560	22600	70	2.76	0,38	0.26
2STK-12-08	12	-8	12,7	1/2"	20,1	0.79	350	5100	1400	20400	90	3.54	0,55	0.37
2STK-16-10	16	-10	15,9	5/8"	23,6	0.93	290	4200	1160	16800	130	5.12	0,63	0.42
2STK-19-12	19	-12	19,0	3/4"	27,5	1.08	280	4100	1120	16400	160	6.30	0,80	0.54
2STK-25-16	25	-16	25,4	1"	35,1	1.38	200	2900	800	11600	210	8.27	1,13	0.76
2STK-31-20	31	-20	31,8	1.1/4"	43,5	1.71	175	2550	700	10200	300	11.81	1,60	1.08

Applications: Extremely high pressure compact hose with greater flexibility. Exceeding SAE 100R16 – EN 857 2SC. Recommended for hydraulic applications where a high pressure and a tighter bend radius is needed. Approved at 1.000.000 impulse cycles at 1,33% WP. Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Two high tensile steel braids
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 121°C (125°C discontinuous)
-40°F to 250°F (257°F discontinuous)

Version available:
MSHA COVER
MSHA HARC COVER
MSHA ENDLESS COVER
HARC COVER
ENDLESS COVER

See page. 92

Master

EXCEEDS SAE 100 R16 - EN 857 2SC



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
22M-06-04	06	-4	6,4	1/4"	13,8	0.54	400	5850	1600	23400	75	2.95	0,30	0.20
22M-08-05	08	-5	7,9	5/16"	16,0	0.63	400	5850	1600	23400	85	3.35	0,39	0.26
22M-10-06	10	-6	9,5	3/8"	18,0	0.71	400	5850	1600	23400	90	3.54	0,50	0.33
22M-12-08	12	-8	12,7	1/2"	21,5	0.85	350	5150	1400	20600	130	5.12	0,64	0.43
22M-16-10	16	-10	15,9	5/8"	24,7	0.97	275	4050	1100	16200	170	6.69	0,74	0.50
22M-19-12	19	-12	19,0	3/4"	28,3	1.11	235	3450	940	13800	200	7.87	0,84	0.57
22M-25-16	25	-16	25,4	1"	35,7	1.41	185	2700	740	10800	250	9.84	1,18	0.79
22M-31-20	31	-20	31,8	1.1/4"	44,2	1.74	165	2400	660	9600	300	11.81	1,13	0.76

Applications: High pressure compact hose with greater flexibility. Exceeding SAE 100R16 – EN 857 2SC. Recommended for hydraulic applications where a high pressure and an improved impulse life is needed. Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Two high tensile steel braids
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 121°C (125°C discontinuous)
-40°F to 250°F (257°F discontinuous)
Certifications:
DNV Type Approval

Version available:
MSHA COVER
MSHA HARC COVER
MSHA ENDLESS COVER
HARC COVER
ENDLESS COVER

See page. 92



DS 19

SAE 100 R19



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
R19-06-04	06	-4	6,4	1/4"	12,0	0.47	280	4100	1120	16400	50	1.97	0,20	0.13
R19-10-06	10	-6	9,5	3/8"	16,6	0.65	280	4100	1120	16400	65	2.56	0,40	0.27
R19-12-08	12	-8	12,7	1/2"	20,3	0.80	280	4100	1120	16400	90	3.54	0,60	0.40
R19-16-10	16	-10	15,9	5/8"	23,8	0.94	280	4100	1120	16400	100	3.94	0,65	0.44
R19-19-12	19	-12	19,0	3/4"	27,8	1.09	280	4100	1120	16400	120	4.72	0,80	0.54
R19-25-16	25	-16	25,4	1"	35,7	1.40	280	4100	1120	16400	150	5.91	1,25	0.84

Applications: High pressure hose with improved impulse cycles and greater performance.
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: One high tensile steel braid -4, Two high tensile steel braids from -6 to -16
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 121°C (125°C discontinuous)
-40°F to 250°F (257°F discontinuous)

Version available:
MSHA COVER
MSHA HARC COVER
MSHA ENDLESS COVER
HARC COVER
ENDLESS COVER

See page. 92

Fortius 1

EXCEEDS SAE 100 R1AT - EN 853 1SN



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
11F-05-03	05	-3	4,8	3/16"	11,7	0.46	350	5100	1400	20400	44	1.73	0,21	0.14
11F-06-04	06	-4	6,4	1/4"	13,2	0.52	345	5000	1380	20000	51	2.00	0,25	0.17
11F-08-05	08	-5	7,9	5/16"	14,6	0.57	295	4350	1180	17400	57	2.25	0,27	0.18
11F-10-06	10	-6	9,5	3/8"	16,6	0.65	275	4050	1100	16200	63	2.48	0,33	0.22
11F-12-08	12	-8	12,7	1/2"	20,3	0.79	240	3550	960	14200	89	3.50	0,41	0.28
11F-16-10	16	-10	15,9	5/8"	22,9	0.90	190	2800	760	11200	102	4.02	0,48	0.32
11F-19-12	19	-12	19,0	3/4"	26,5	1.04	155	2300	620	9200	121	4.76	0,58	0.39
11F-25-16	25	-16	25,4	1"	34,7	1.37	140	2050	560	8200	152	6.00	0,72	0.48
11F-31-20	31	-20	31,8	1.1/4"	42,2	1.66	112	1650	448	6600	210	8.27	1,12	0.75

Applications: Very high pressure hose with extreme flexibility. Exceeding SAE 100R1 - EN 853 1SN
Recommended for hydraulic applications where a tighter bend radius is needed.
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: One high tensile steel braid
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 121°C (125°C discontinuous)
-40°F to 250°F (257°F discontinuous)

Version available:
MSHA COVER
MSHA HARC COVER
MSHA ENDLESS COVER
HARC COVER
ENDLESS COVER

See page. 92

Overmaster



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
20V-06-04	06	-4	6,4	1/4"	14,5	0.57	490	7150	1960	28600	100	3.94	0,32	0.22
20V-08-05	08	-5	7,9	5/16"	15,8	0.62	480	7000	1920	28000	115	4.53	0,41	0.28
20V-10-06	10	-6	9,5	3/8"	18,0	0.71	450	6550	1800	26200	130	5.12	0,52	0.35
20V-12-08	12	-8	12,7	1/2"	21,4	0.84	400	5850	1600	23400	180	7.09	0,66	0.44
20V-16-10	16	-10	15,9	5/8"	24,6	0.97	350	5150	1400	20600	200	7.87	0,77	0.52
20V-19-12	19	-12	19,0	3/4"	28,3	1.11	320	4650	1280	18600	240	9.45	0,93	0.62
20V-25-16	25	-16	25,4	1"	36,7	1.44	250	3650	1000	14600	300	11.81	1,39	0.93

Applications: Extremely high pressure hose with improved impulse cycles and greater performance.
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Two high tensile steel braids
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 121°C (125°C discontinuous)
-40°F to 250°F (257°F discontinuous)

Certifications:
DNV Type Approval
ABS Type Approval
MED

Version available:
MSHA COVER
MSHA HARC COVER
MSHA ENDLESS COVER
HARC COVER
ENDLESS COVER

See page. 92

Bioforest

THREE WIRE BRAIDS HOSE



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
3BF-06-04	06	-4	6,4	1/4"	16,2	0.64	525	7650	2100	30600	100	3.90	0,49	0.33
3BF-10-06	10	-6	9,5	3/8"	21,1	0.83	500	7250	2000	29000	120	4.72	0,83	0.56
3BF-12-08	12	-8	12,7	1/2"	22,8	0.90	470	6850	1880	27400	160	6.30	0,82	0.55
3BF-16-10	16	-10	15,9	5/8"	27,5	1.08	410	6000	1640	24000	220	8.66	1,12	0.75
3BF-19-12	19	-12	19,0	3/4"	31,5	1.24	380	5500	1520	22000	260	10.24	1,28	0.86
3BF-25-16	25	-16	25,4	1"	37,6	1.48	330	4800	1320	19200	310	12.20	1,74	1.17

Applications: Extremely high pressure hose with improved impulse cycles for greater performance.
Recommended for construction equipment, machine tools agriculture application and deforesting machine.
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Three high tensile steel braids
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 121°C (125°C discontinuous)
-40°F to 250°F (257°F discontinuous)

Version available:
MSHA COVER
MSHA HARC COVER
MSHA ENDLESS COVER
HARC COVER
ENDLESS COVER

See page. 92



DS5

SAE 100 R5



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
5PN-05-04	05	-4	4,8	3/16"	13,1	0.51	210	3000	840	12000	76	2.99	0,24	0.16
5PN-06-05	06	-5	6,4	1/4"	14,5	0.57	210	3000	840	12000	85	3.35	0,26	0.17
5PN-08-06	08	-6	7,9	5/16"	17,1	0.67	155	2250	620	9000	100	3.94	0,32	0.21
5PN-10-08	10	-8	10,3	13/32"	19,3	0.76	140	2000	560	8000	115	4.53	0,36	0.24
5PN-12-10	12	-10	12,7	1/2"	23,3	0.91	122	1750	488	7000	140	5.51	0,51	0.34
5PN-16-12	16	-12	15,9	5/8"	27,4	1.07	105	1500	420	6000	165	6.50	0,61	0.41
5PN-22-16	22	-16	22,2	7/8"	31,2	1.23	55	800	220	3200	185	7.28	0,63	0.43
5PN-28-20	28	-20	28,6	1.1/8"	37,9	1.49	43	625	172	2500	230	9.06	0,75	0.50
5PN-35-24	35	-24	34,9	1.3/8"	44,3	1.74	35	500	140	2000	265	10.43	0,82	0.55
5PN-46-32	46	-32	46,0	1.13/16"	55,8	2.20	24	350	96	1400	335	13.19	1,14	0.76

Applications: Medium pressure hydraulic petroleum-based oil lines in impulse applications.
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: One textile braid and one high tensile steel braid
Cover: Black, oil resistant, polyester braid

Temperature:
-40°C to 121°C (125°C discontinuous)
-40°F to 250°F (257°F discontinuous)
Certifications:
DOT
ABS Type Approval
MED

Lean line



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
1LL-05-03	05	-3	4,8	3/16"	10,3	0.41	120	1750	480	7000	20	0.79	0,14	0.09
1LL-06-04	06	-4	6,4	1/4"	11,5	0.45	120	1750	480	7000	25	0.98	0,16	0.10
1LL-08-05	08	-5	7,9	5/16"	12,5	0.49	120	1750	480	7000	30	1.18	0,17	0.11
1LL-10-06	10	-6	9,5	3/8"	14,8	0.58	100	1450	400	5800	40	1.57	0,21	0.14
1LL-12-08	12	-8	12,7	1/2"	18,8	0.74	100	1450	400	5800	50	1.97	0,31	0.21
1LL-16-10	16	-10	15,9	5/8"	22,1	0.87	100	1450	400	5800	70	2.75	0,37	0.25
1LL-19-12	19	-12	19,0	3/4"	25,5	1.00	100	1450	400	5800	80	3.15	0,44	0.30
1LL-25-16	25	-16	25,4	1"	32,0	1.26	75	1100	300	4400	120	4.72	0,56	0.38

Applications: Light, compact, extremely flexible hose usable with a very reduced bend radius for servo control application in low and medium pressure application.
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: One high tensile steel braid
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 121°C (125°C discontinuous)
-40°F to 250°F (257°F discontinuous)

Version available:
MSHA COVER
MSHA HARC COVER
MSHA ENDLESS COVER
HARC COVER
ENDLESS COVER

See page. 92

Jack hose



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
JCK-06-04	06	-4	6,4	1/4"	13,3	0.52	700	10000	1400	20000	50	1.97	0,34	0.23
JCK-10-06	10	-6	9,5	3/8"	17,3	0.68	700	10000	1400	20000	65	2.56	0,42	0.28

Applications: Hydraulic jack applications with petroleum and water-base fluids. Meets the performance requirements of the Material Handling Institute Specification LJ100.
10.000PSI Static Pressure Only.
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Two high tensile steel braids
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 121°C (125°C discontinuous)
-40°F to 250°F (257°F discontinuous)

Version available:
MSHA COVER
MSHA HARC COVER
MSHA ENDLESS COVER
HARC COVER
ENDLESS COVER

See page. 92



DS-2TE

EN 854 2TE



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
2TE-05-03	05	-3	4,8	3/16"	11,8	0.46	80	1160	320	4640	25	1.00	0,12	0.08
2TE-06-04	06	-4	6,4	1/4"	13,4	0.53	75	1100	300	4400	40	1.57	0,13	0.089
2TE-08-05	08	-5	7,9	5/16"	14,9	0.58	68	1000	272	4000	50	1.97	0,16	0.104
2TE-10-06	10	-6	9,5	3/8"	16,5	0.65	63	920	252	3680	60	2.36	0,16	0.108
2TE-12-08	12	-8	12,7	1/2"	19,7	0.78	58	840	232	3360	70	2.76	0,22	0.150
2TE-16-10	16	-10	15,9	5/8"	23,5	0.93	50	725	200	2900	90	3.54	0,31	0.210
2TE-19-12	19	-12	19,0	3/4"	26,8	1.05	45	650	180	2600	110	4.33	0,34	0.230
2TE-25-16	25	-16	25,4	1"	34,0	1.34	40	580	160	2320	130	5.12	0,54	0.362
2TE-31-20	31	-20	31,8	1.1/4"	42,0	1.65	35	500	140	2000	150	5.90	0,75	0.50

Applications: Medium pressure hose for hydraulic applications
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: One high resistant textile braid
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 121°C (125°C discontinuous)
-40°F to 250°F (257°F discontinuous)

DS-3TE

EN 854 3TE



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
3TE-05-03	05	-3	4,8	3/16"	12,8	0.50	160	2320	640	9280	40	1.57	0,14	0.09
3TE-06-04	06	-4	6,4	1/4"	14,5	0.57	145	2100	580	8400	45	1.77	0,15	0.10
3TE-08-05	08	-5	7,9	5/16"	17,0	0.67	130	1880	520	7520	55	2.17	0,23	0.15
3TE-10-06	10	-6	9,5	3/8"	18,5	0.73	110	1600	440	6400	70	2.76	0,25	0.17
3TE-12-08	12	-8	12,7	1/2"	21,8	0.86	93	1350	372	5400	85	3.35	0,30	0.20
3TE-16-10	16	-10	15,9	5/8"	26,0	1.02	80	1160	320	4640	105	4.13	0,42	0.28
3TE-19-12	19	-12	19,0	3/4"	29,0	1.14	70	1020	280	4080	130	5.12	0,46	0.31
3TE-25-16	25	-16	25,4	1"	36,0	1.42	55	800	220	3200	150	5.90	0,58	0.39
3TE-31-20	31	-20	31,8	1.1/4"	42,0	1.65	45	650	180	2600	190	7.48	0,63	0.42

Applications: Medium pressure hose for hydraulic applications
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Two high resistant textile braids
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 121°C (125°C discontinuous)
-40°F to 250°F (257°F discontinuous)

Push-on



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
PUSHON-06-04	06	-4	6,4	1/4"	12,5	0.49	21	304	84	1216	75	3.00	0,11	0.07
PUSHON-10-06	10	-6	9,5	3/8"	15,6	0.61	21	304	84	1216	75	3.00	0,15	0.10
PUSHON-12-08	12	-8	12,7	1/2"	19,1	0.75	21	304	84	1216	125	5.00	0,22	0.14
PUSHON-16-10	16	-10	15,9	5/8"	22,6	0.89	21	304	84	1216	150	6.00	0,26	0.17
PUSHON-19-12	19	-12	19,0	3/4"	26,1	1.03	21	304	84	1216	175	7.00	0,31	0.20
PUSHON-25-16	25	-16	25,4	1"	33	1.30	21	304	84	1216	200	8.00	0,44	0.29

Applications: Low pressure hose for hydraulic applications
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.
Push-On hose can be used with Push-On fittings but is not recommend in vibrating or critical application.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: One high resistant textile braid
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 121°C (125°C discontinuous)
-40°F to 250°F (257°F discontinuous)

Version available:
MSHA COVER
MSHA HARC COVER
Color available:
Black, Red

See page. 92

DS6/1TE

SAE 100 R6 / EN 854



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
106-05-03	05	-3	4,8	3/16"	10,9	0.43	35	500	140	2000	50	2.00	0,10	0.07
106-06-04	06	-4	6,4	1/4"	12,5	0.50	28	400	112	1600	65	2.50	0,11	0.08
106-08-05	08	-5	7,9	5/16"	14,0	0.55	28	400	112	1600	75	3.00	0,13	0.09
106-10-06	10	-6	9,5	3/8"	15,6	0.62	28	400	112	1600	75	3.00	0,15	0.10
106-12-08	12	-8	12,7	1/2"	19,3	0.76	28	400	112	1600	100	4.00	0,22	0.15
106-16-10	16	-10	15,9	5/8"	22,6	0.89	24	350	96	1400	125	5.00	0,26	0.17
106-19-12	19	-12	19,0	3/4"	26,0	1.03	21	300	84	1200	150	6.00	0,31	0.21
106-25-16	25	-16	25,4	1"	33,0	1.29	21	300	84	1200	165	6.50	0,49	0.33

Applications: Low pressure hose for hydraulic applications
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: One high resistant textile braid
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 121°C (125°C discontinuous)
-40°F to 250°F (257°F discontinuous)



DS3

SAE 100 R3



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
103-05-03	05	-3	4,8	3/16"	12,8	0.50	105	1500	420	6000	75	3.00	0,15	0.10
103-06-04	06	-4	6,4	1/4"	14,4	0.57	87	1250	348	5000	75	3.00	0,19	0.13
103-08-05	08	-5	7,9	5/16"	17,6	0.69	84	1200	336	4800	100	4.00	0,26	0.17
103-10-06	10	-6	9,5	3/8"	19,0	0.75	78	1125	312	4500	100	4.00	0,25	0.17
103-12-08	12	-8	12,7	1/2"	23,8	0.94	70	1000	280	4000	125	5.00	0,39	0.26
103-16-10	16	-10	15,9	5/8"	27,0	1.06	61	875	244	3540	140	5.50	0,48	0.32
103-19-12	19	-12	19,0	3/4"	31,7	1.25	52	750	208	3000	150	6.00	0,65	0.44
103-25-16	25	-16	25,4	1"	38,0	1.50	39	565	156	2250	200	8.00	0,80	0.54
103-31-20	31	-20	31,8	1.1/4"	44,8	1.76	26	375	104	1500	250	10.00	0,95	0.64

Applications: Medium pressure hose for hydraulic applications
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Two high resistant textile braids
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 121°C (125°C discontinuous)
-40°F to 250°F (257°F discontinuous)

DS4

SAE 100 R4



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
104-19-12	19	-12	19,0	3/4"	29,0	1.14	21	300	84	1200	125	5.00	0,54	0.36
104-25-16	25	-16	25,4	1"	35,0	1.38	17	250	68	1000	152	6.00	0,66	0.44
104-32-20	32	-20	31,8	1.1/4"	42,0	1.65	14	200	56	800	200	8.00	0,94	0.63
104-38-24	38	-24	38,1	1.1/2"	48,5	1.91	10	150	40	600	250	10.00	1,05	0.71
104-45-28	45	-28	45,0	1.3/4"	57,0	2.24	7	100	28	400	280	11.00	1,20	0.81
104-51-32	51	-32	50,8	2"	61,5	2.42	7	100	28	400	305	12.00	1,55	1.04
104-63-40	63	-40	63,5	2.1/2"	76,0	2.99	4	58	16	232	350	14.00	2,65	1.78
104-76-48	76	-48	76,2	3"	88,0	3.46	4	58	16	232	450	18.00	3,22	2.16
104-90-56	90	-56	88,9	3.1/2"	103,0	4.06	3	45	12	180	530	21.00	4,00	2.69
104-102-64	102	-64	101,6	4"	115,0	4.53	2	30	8	120	600	24.00	4,68	3.14

Applications: Low pressure suction and delivery hose for hydraulic applications
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Two high resistant textile reinforcements with anti-flattening steel spiral
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 121°C (125°C discontinuous)
-40°F to 250°F (257°F discontinuous)

DS7

SAE 100 R7 EN855 R7



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
107-03-02	3	-2		1/8"	8,5	0.33	210	3000	840	12000	25	1.38	0,06	0.04
107-05-03	05	-3	4,8	3/16"	10,0	0.39	210	3000	840	12000	35	1.38	0,06	0.04
107-06-04	06	-4	6,4	1/4"	11,5	0.45	200	2900	800	11600	50	1.97	0,09	0.06
107-08-05	08	-5	7,9	5/16"	14,3	0.56	190	2700	760	10800	55	2.16	0,13	0.09
107-10-06	10	-6	9,5	3/8"	16,2	0.63	160	2300	640	9200	75	2.95	0,16	0.10
107-12-08	12	-8	12,7	1/2"	20,4	0.80	140	2000	560	8000	95	3.74	0,22	0.15
107-16-10	16	-10	15,9	5/8"	23,6	0.92	105	1500	420	6000	125	4.92	0,28	0.19
107-19-12	19	-12	19,0	3/4"	26,5	1.04	90	1300	360	5200	150	5.90	0,33	0.22
107-25-16	25	-16	25,4	1"	33,5	1.31	70	1000	280	4000	200	7.87	0,45	0.30

Applications: Low, medium thermoplastic hose for hydraulic applications, (also available in twin hose version)
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Thermoplastic polyester resistant to oils
Reinforcement: Two high resistant polyester braids
Cover: Thermoplastic elastomer resistant to oils

Temperature:
-50°C to 100°C (aqueous solution)
-40°C to 70°C (water, air, petroleum based products, mineral and vegetable oils)
-58°F to 212°F (aqueous solution)
-40°F to 158°F (water, air, petroleum based products, mineral and vegetable oils)

DS8

SAE 100 R8 EN855 R8



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
108-03-02	03	-2	3,2	1/8"	8,0	0.31	420	6100	1680	24400	25	0.98	0,05	0.03
108-05-03	05	-3	4,8	3/16"	9,0	0.35	350	5100	1400	20400	35	1.38	0,05	0.03
108-06-04	06	-4	6,4	1/4"	11,5	0.45	350	5100	1400	20400	50	1.97	0,09	0.06
108-08-05	08	-5	7,9	5/16"	13,5	0.53	300	4350	1200	17400	55	2.16	0,11	0.07
108-10-06	10	-6	9,5	3/8"	15,5	0.61	280	4000	1120	16000	70	2.76	0,14	0.09
108-12-08	12	-8	12,7	1/2"	20,0	0.79	245	3500	980	14000	95	3.74	0,20	0.13
108-16-10	16	-10	15,9	5/8"	23,5	0.93	195	2750	780	11000	125	4.92	0,26	0.17
108-19-12	19	-12	19,0	3/4"	27,0	1.06	165	2250	660	9000	150	5.90	0,33	0.22
108-25-16	25	-16	25,4	1"	34,5	1.36	140	2000	560	8000	200	7.87	0,44	0.30

Applications: High pressure thermoplastic hose for hydraulic applications, (also available in twin hose version)
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Thermoplastic polyester resistant to oils
Reinforcement: Two braids in aramidic fiber
Cover: Thermoplastic elastomer resistant to oils

Temperature:
-50°C to 100°C (aqueous solution)
-40°C to 70°C (water, air, petroleum based products, mineral and vegetable oils)
-58°F to 212°F (aqueous solution)
-40°F to 158°F (water, air, petroleum based products, mineral and vegetable oils)



Dyrel 1



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
DY1-05-03	05	-3	4,8	3/16"	10,0	0.39	325	4710	1300	18840	30	1.18	0,12	0.08
DY1-06-04	06	-4	6,4	1/4"	11,8	0.46	300	4350	1200	17400	40	1.57	0,16	0.11
DY1-08-05	08	-5	7,9	5/16"	14,1	0.56	240	3480	960	13920	50	1.97	0,19	0.13
DY1-10-06	10	-6	9,5	3/8"	15,8	0.62	225	3260	900	13040	60	2.36	0,23	0.15
DY1-12-08	12	-8	12,7	1/2"	20,6	0.81	190	2760	760	11040	75	2.95	0,30	0.20
DY1-16-10	16	-10	15,9	5/8"	23,5	0.93	150	2175	600	8700	110	4.33	0,33	0.22
DY1-19-12	19	-12	19,0	3/4"	25,6	1.01	130	1885	520	7540	150	5.91	0,44	0.30
DY1-25-16	25	-16	25,4	1"	32,6	1.28	105	1520	420	6080	185	7.28	0,65	0.44

Applications: Compact Hose for hydraulic applications requiring high pressure and low volumetric expansion. Meets or exceeds SAE 100R1 performance.

Construction:
Tube: Polyester elastomer
Reinforcement: One braid high tensile steel braid
Cover: Polyurethane, black cover

Temperature:
- 40°C to 100°C (-40°F to 212°F)
- 40°C to 70°C (-40°F to 158°F) water based fluids

Dyrel 2



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
DY2-06-04	06	-4	6,4	1/4"	13,4	0.53	375	5440	1500	21760	40	1,57	0,29	0.19
DY2-08-05	08	-5	7,9	5/16"	15,0	0.59	310	4500	1240	18000	50	1,97	0,34	0.23
DY2-10-06	10	-6	9,5	3/8"	16,8	0.66	300	4350	1200	17400	60	2,36	0,40	0.27
DY2-12-08	12	-8	12,7	1/2"	21,8	0.86	250	3630	1000	14520	75	2,95	0,57	0.38
DY2-16-10	16	-10	15,9	5/8"	24,3	0.96	190	2750	760	11000	110	4,33	0,63	0.42
DY2-19-12	19	-12	19,0	3/4"	27,3	1.07	160	2320	640	9280	150	5,91	0,75	0.50
DY2-25-16	25	-16	25,4	1"	34,7	1.37	150	2170	600	8680	185	7,28	1,02	0.69

Applications: Hose for hydraulic applications requiring high pressure and low volumetric expansion. Meets or exceeds SAE 100R2 performance.

Construction:
Tube: Polyester elastomer
Reinforcement: two braids high tensile steel braid
Cover: Polyurethane, black cover

Temperature:
- 40°C to 100°C (-40°F to 212°F)
- 40°C to 70°C (-40°F to 158°F) water based fluids



HIGH TEMPERATURE HOSES

These braided and spiral hoses are suitable for the passage of high-temperature fluids, ranging between -40°C and +150°C. They guarantee great performances even with fluids at very high temperatures.

- 44 **FAHRENHEIT 302/12** HIGH TEMPERATURE EXCEEDS SAE 100 R12-EN856 R12
- 44 **FAHRENHEIT 302/13** HIGH TEMPERATURE EXCEEDS SAE 100 R13-EN856 R13
- 45 **FAHRENHEIT 302/15** HIGH TEMPERATURE EXCEEDS SAE 100 R15
- 45 **FAHRENHEIT 302/4SH** HIGH TEMPERATURE EXCEEDS EN856 4SH
- 46 **FAHRENHEIT 302/1** HIGH TEMPERATURE EXCEEDS SAE 100 R1AT - EN853 1SN
- 47 **FAHRENHEIT 302/2** HIGH TEMPERATURE EXCEEDS SAE 100 R2AT - EN853 2SN
- 48 **FAHRENHEIT 302/17** EXCEEDS SAE 100 R17
- 48 **FAHRENHEIT 302/F1** HIGH TEMPERATURE EXCEEDS SAE 100 R1AT - EN853 1SN
- 49 **FAHRENHEIT 302/162** HIGH TEMPERATURE EXCEEDS SAE 100 R16 - EN857 2SC
- 49 **MERCURY** HIGH TEMPERATURE EXCEEDS SAE 100 R16 - EN857 2SC
- 50 **FAHRENHEIT 302/5** HIGH TEMPERATURE EXCEEDS SAE 100 R5
- 50 **FAHRENHEIT 302/PUSH-ON** HIGH TEMPERATURE FIRE RESISTANT MSHA COVER
- 51 **FAHRENHEIT 302/6** HIGH TEMPERATURE EXCEEDS SAE 100 R6
- 51 **HOT OILER** TWO WIRE BRAIDS HOSE



Fahrenheit 302/12

HIGH TEMPERATURE EXCEEDS SAE 100 R12-EN856 R12



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
R12-19-12	19	-12	19,0	3/4"	30,2	1.19	280	4000	1120	16000	240	9.45	1,23	0.82
R12-25-16	25	-16	25,4	1"	37,2	1.46	280	4000	1120	16000	300	11.80	1,86	1.25
R12-31-20	31	-20	31,8	1.1/4"	46,4	1.83	210	3000	840	12000	420	16.55	2,57	1.73
R12-38-24	38	-24	38,1	1.1/2"	52,8	2.08	175	2500	700	10000	500	19.70	3,19	2.14

Applications: High temperature, high pressure hose for severe hydraulic pulsing applications. Recommended for high temperature working condition. Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases..

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Four high tensile steel spirals
Cover: Synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 150°C
-40°F to 302°F
Certifications: DOT

MSHA flame resistant cover
Color available: Black, Blu

Fahrenheit 302/13

HIGH TEMPERATURE EXCEEDS SAE 100 R13-EN856 R13



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
ICR13-19-12	19	-12	19,0	3/4"	32	1.26	350	5100	1400	20400	240	9.75	1,51	1.00
ICR13-25-16	25	-16	25,4	1"	38,3	1.51	350	5100	1400	20400	300	11.81	2,16	1.45
ICR13-31-20	31	-20	31,8	1.1/4"	49,5	1.95	350	5100	1400	20400	420	16.55	3,57	2.40
ICR13-38-24	38	-24	38,1	1.1/2"	56,9	2.24	350	5100	1400	20400	500	19.70	4,61	3.10

Applications: High temperature, very high pressure hose for severe hydraulic pulsing applications. Recommended for high temperature working condition. Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Four high tensile steel spirals up to -16, six spirals -20 and -24
Cover: Synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 150°C
-40°F to 302°F

MSHA flame resistant cover
Color available: Black, Blu

Fahrenheit 302/15

HIGH TEMPERATURE EXCEEDS SAE 100 R15



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
R12-19-12	19	-12	19,0	3/4"	31,8	1.25	420	6100	1680	24400	265	10.45	1,52	1.02
R12-25-16	25	-16	25,4	1"	38	1.50	420	6100	1680	24400	300	11.80	2,02	1.36
R12-31-20	31	-20	31,8	1.1/4"	49,5	1.95	420	6100	1680	24400	350	13.80	3,59	2.41
R12-38-24	38	-24	38,1	1.1/2"	56,9	2.24	420	6100	1680	24400	420	16.55	4,70	3.16

Applications: High temperature, very high pressure hose for severe hydraulic pulsing applications. Recommended for high temperature working condition. Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Four high tensile steel spirals up to -16, six spirals -20 and -2
Cover: Synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 150°C
-40°F to 302°F

MSHA flame resistant cover
Color available: Black, Blu

Fahrenheit 302/4SH

HIGH TEMPERATURE EXCEEDS EN856 4SH



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
FHT4SH-19-12	19	-12	19,0	3/4"	31,70	1.25	425	6150	1700	24600	280	11.00	1,52	1.02
FHT4SH-25-16	25	-16	25,4	1"	38,10	1.50	400	5800	1600	23200	340	13.40	2,00	1.34
FHT4SH-31-20	31	-20	31,8	1.1/4"	45,00	1.77	350	5100	1400	20400	460	18.11	2,55	1.71
FHT4SH-38-24	38	-24	38,1	1.1/2"	52,20	2.06	300	4350	1200	17400	560	22.00	3,01	2.02

Applications: High temperature, very high pressure hose for severe hydraulic pulsing applications. Recommended for hot working condition. Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Four high tensile steel spirals
Cover: Synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 150°C
-40°F to 302°F

MSHA flame resistant cover
Color available: Black, Blu



Fahrenheit 302/1

HIGH TEMPERATURE EXCEEDS SAE 100 R1AT - EN853 1SN



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
1FF-05-03	05	-3	4,8	3/16"	11,8	0.46	250	3650	1000	14600	90	3.50	0,18	0.12
1FF-06-04	06	-4	6,4	1/4"	13,4	0.53	225	3250	900	13000	100	3.90	0,23	0.15
1FF-08-05	08	-5	7,9	5/16"	15,0	0.59	215	3100	860	12400	115	4.50	0,27	0.18
1FF-10-06	10	-6	9,5	3/8"	17,4	0.69	180	2600	720	10400	12.5	4.92	0,35	0.23
1FF-12-08	12	-8	12,7	1/2"	20,5	0.81	160	2300	640	9200	180	7.10	0,41	0.28
1FF-16-10	16	-10	15,9	5/8"	23,7	0.93	130	1900	520	7600	200	7.90	0,51	0.34
1FF-19-12	19	-12	19,0	3/4"	27,7	1.09	105	1500	420	6000	240	9.50	0,63	0.42
1FF-25-16	25	-16	25,4	1"	35,8	1.41	88	1300	352	5200	300	11.80	0,94	0.63
1FF-31-20	31	-20	31,8	1.1/4"	43,5	1.71	63	900	252	3600	420	16.50	1,30	0.87
1FF-38-24	38	-24	38,1	1.1/2"	50,5	1.99	50	725	200	2900	500	19.70	1,60	1.08
1FF-51-32	51	-32	50,8	2"	63,9	2.52	40	580	160	2320	630	24.80	1,90	1.28

Applications: High temperature hose at medium pressure hose for hydraulic applications.
Meets or Exceeds SAE 100R1 performance.
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: One high tensile steel braid
Cover: Black or blue, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 150°C except for air not higher than 121°C
-40°F to 302°F except for air not higher than 250°F

MSHA flame resistant cover

Fahrenheit 302/2

HIGH TEMPERATURE EXCEEDS SAE 100 R2AT - EN853 2SN



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
2FF-05-03	05	-3	4,8	3/16"	13,4	0.53	415	6000	1660	24000	90	3.50	0,30	0.20
2FF-06-04	06	-4	6,4	1/4"	14,8	0.58	400	5800	1600	23200	100	4.00	0,33	0.22
2FF-08-05	08	-5	7,9	5/16"	16,6	0.65	350	5100	1400	20400	115	4.50	0,42	0.28
2FF-10-06	10	-6	9,5	3/8"	18,7	0.73	330	4800	1320	19200	125	4.92	0,52	0.35
2FF-12-08	12	-8	12,7	1/2"	21,8	0.85	275	4000	1100	16000	180	7.00	0,64	0.43
2FF-16-10	16	-10	15,9	5/8"	24,8	0.97	250	3600	1000	14400	200	8.00	0,75	0.50
2FF-19-12	19	-12	19,0	3/4"	29,2	1.15	215	3100	860	12400	240	9.50	0,92	0.62
2FF-25-16	25	-16	25,4	1"	37,3	1.47	165	2400	660	9600	300	12.00	1,37	0.92
2FF-31-20	31	-20	31,8	1.1/4"	47,5	1.87	125	1800	500	7200	420	16.50	2,16	1.45
2FF-38-24	38	-24	38,1	1.1/2"	54,0	2.12	90	1300	360	5200	500	20.00	2,48	1.67
2FF-51-32	51	-32	50,8	2"	67,0	2.64	80	1150	320	4600	630	25.00	3,08	2.07

Applications: High temperature hose at high pressure hose for hydraulic applications.
Meets or Exceeds SAE 100R2 performance.
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Two high tensile steel braids
Cover: Black or blue, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 150°C except for air not higher than 121°C
-40°F to 302°F except for air not higher than 250°F

MSHA flame resistant cover



Fahrenheit 302/17

EXCEEDS SAE 100 R17



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
F17-06-04	06	-4	6,4	1/4"	12,3	0.48	210	3000	840	12000	50	1,97	0,19	0.13
F17-08-05	08	-5	7,9	5/16"	14	0.55	210	3000	840	12000	55	2,17	0,22	0.15
F17-10-06	10	-6	9,5	3/8"	15,9	0.63	210	3000	840	12000	65	2,56	0,30	0.20
F17-12-08	12	-8	12,7	1/2"	19,1	0.75	210	3000	840	12000	90	3,54	0,39	0.26
F17-16-10	16	-10	15,9	5/8"	23,9	0.94	210	3000	840	12000	100	3,94	0,62	0.42
F17-19-12	19	-12	19,0	3/4"	28	1.10	210	3000	840	12000	120	4,72	0,78	0.52
F17-25-16	25	-16	25,4	1"	35,3	1.39	210	3000	840	12000	150	5,91	1,13	0.76

Applications: High temperature compact hose for medium pressure application with extreme flexibility.
Meet SAE 100R17 performance.
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: One high tensile steel braid up to -8, two braids from -10 to -16s
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 150°C
-40°F to 302°F

MSHA flame resistant cover

Fahrenheit 302/F1

HIGH TEMPERATURE EXCEEDS SAE 100 R1AT - EN853 1SN



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
FFS-05-03	05	-3	4,8	3/16"	11,7	0.46	350	5100	1400	20400	44	1.73	0,21	0.14
FFS-06-04	06	-4	6,4	1/4"	13,2	0.52	345	5000	1380	20000	51	2.00	0,25	0.17
FFS-08-05	08	-5	7,9	5/16"	14,6	0.57	295	4350	1180	17400	57	2.25	0,27	0.18
FFS-10-06	10	-6	9,5	3/8"	16,6	0.65	275	4050	1100	16200	63	2.48	0,33	0.22
FFS-12-08	12	-8	12,7	1/2"	19,8	0.78	240	3550	960	14200	89	3.50	0,41	0.28
FFS-16-10	16	-10	15,9	5/8"	22,9	0.90	190	2800	760	11200	102	4.02	0,48	0.32
FFS-19-12	19	-12	19,0	3/4"	26,5	1.04	155	2300	620	9200	121	4.76	0,58	0.39
FFS-25-16	25	-16	25,4	1"	34,7	1.37	140	2050	560	8200	152	6.00	0,72	0.48
FFS-31-20	31	-20	31,8	1.1/4"	42,2	1.66	112	1650	448	6600	210	8.27	1,12	0.75

Applications: High temperature hose at high pressure hose for hydraulic applications.
Meets or Exceeds SAE 100R1 performance.
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: One high tensile steel braid
Cover: Black or blue, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 150°C except for air not higher than 121°C
-40°F to 302°F except for air not higher than 250°F

MSHA flame resistant cover

Fahrenheit 302/162

HIGH TEMPERATURE EXCEEDS SAE 100 R16 - EN857 2SC



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
16F2-06-04	06	-4	6,4	1/4"	13,2	0.52	400	5800	1600	23200	50	1.97	0,30	0.20
16F2-08-05	08	-5	7,9	5/16"	15,2	0.59	350	5000	1400	20000	55	2.17	0,33	0.22
16F2-10-06	10	-6	9,5	3/8"	16,7	0.65	330	4800	1320	19200	65	2.56	0,40	0.27
16F2-12-08	12	-8	12,7	1/2"	20,2	0.79	275	4000	1100	16000	90	3.54	0,50	0.34
16F2-16-10	16	-10	15,9	5/8"	24,0	0.94	250	3600	1000	14400	100	3.94	0,65	0.44
16F2-19-12	19	-12	19,0	3/4"	27,9	1.09	215	3000	860	12000	120	4.72	0,85	0.57
16F2-25-16	25	-16	25,4	1"	35,1	1.38	165	2400	660	9600	150	5.91	1,15	0.77
16F2-31-20	31	-20	31,8	1.1/4"	43,6	1.71	125	1800	500	7200	210	8.27	1,55	1.04

Applications: High temperature hose with extreme flexibility.
Recommended for hydraulic applications where a tighter bend radius is needed.
Meets or Exceeds SAE 100R16 / EN 857 2SC performance
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Two high tensile steel braids
Cover: Black or blue, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 150°C except for air not higher than 121°C
-40°F to 302°F except for air not higher than 250°F

MSHA flame resistant cover

Mercury

HIGH TEMPERATURE EXCEEDS SAE 100 R16 - EN857 2SC



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
MRC-08-05	08	-5	7,9	5/16"	15,8	0.62	400	5800	1600	23200	55	2.17	0,34	0.23
MRC-12-08	12	-8	12,7	1/2"	19,8	0.78	310	4500	1240	18000	80	3.15	0,54	0.36
MRC-16-10	16	-10	15,9	5/8"	23,1	0.91	300	4300	1200	17200	90	3.54	0,70	0.47
MRC-19-12	19	-12	19,0	3/4"	26,5	1.04	300	4300	1200	17200	120	4.72	1,05	0.71

Applications: High temperature hose with extremely high pressure, recommended for heavy hydraulic applications, and toughest OEM specification.
Meets or Exceeds SAE 100R16 / EN 857 2SC performance.
Improved impulse and life service.
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Two high tensile steel braids
Cover: Black or blue, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 150°C except for air not higher than 121°C
-40°F to 302°F except for air not higher than 250°F

MSHA flame resistant cover



Fahrenheit 302/5

HIGH TEMPERATURE EXCEEDS SAE 100 R5



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
5FF-05-04	05	-4	4,8	3/16"	13,2	0.52	210	3000	840	12000	76	2.99	0,24	0.16
5FF-06-05	06	-5	6,4	1/4"	14,5	0.57	210	3000	840	12000	85	3.35	0,26	0.17
5FF-08-06	08	-6	7,9	5/16"	17,1	0.67	155	2250	620	9000	100	3.94	0,32	0.21
5FF-10-08	10	-8	10,3	13/32"	19,4	0.76	140	2000	560	8000	115	4.53	0,36	0.24
5FF-12-10	12	-10	12,7	1/2"	23,4	0.92	122	1750	488	7000	140	5.51	0,51	0.34
5FF-16-12	16	-12	15,9	5/8"	27,4	1.08	105	1500	420	6000	165	6.50	0,63	0.43
5FF-22-16	22	-16	22,2	7/8"	31,3	1.23	55	800	220	3200	185	7.28	0,63	0.43
5FF-28-20	28	-20	28,6	1.1/8"	38,1	1.50	43	625	172	2500	230	9.06	0,75	0.50
5FF-35-24	35	-24	34,9	1.3/8"	44,4	1.75	35	500	140	2000	265	10.43	0,82	0.55
5FF-46-32	46	-32	46,0	1.13/16"	56,2	2.21	24	350	96	1400	335	13.19	1,14	0.76

Applications: High temperature medium pressure hydraulic petroleum-based oil lines in impulse applications.
Meets or Exceeds SAE 100R5 performance
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: One textile braid and one high tensile steel braid
Cover: Blue, oil resistant, polyester braid

Temperature:
-40°C to 150°C except for air not higher than 121°C
-40°F to 302°F except for air not higher than 250°F
Certifications: DOT

Fahrenheit 302/Push-on

HIGH TEMPERATURE FIRE RESISTANT MSHA COVER



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
FHTPUON-06-04	06	-4	6,4	1/4"	12,5	0.49	21	304	84	1216	75	3.00	0,11	0.07
FHTPUON-10-06	10	-6	9,5	3/8"	15,6	0.61	21	304	84	1216	75	3.00	0,15	0.10
FHTPUON-12-08	12	-8	12,7	1/2"	19,1	0.75	21	304	84	1216	125	5.00	0,22	0.14
FHTPUON-16-10	16	-10	15,9	5/8"	22,6	0.89	21	304	84	1216	150	6.00	0,26	0.17
FHTPUON-19-12	19	-12	19,0	3/4"	26,1	1.03	21	304	84	1216	175	7.00	0,31	0.20
FHTPUON-25-16	25	-16	25,4	1"	33	1.30	21	304	84	1216	200	8.00	0,44	0.29

Applications: Higt Temperatura, low pressure hose for hydraulic applications suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases. Push-On hose can be used with Push-On fittings but is not raccomend in vibrating or critical application.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: one high resistant fiber braid
Cover: black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 150°C
-40°F to 302°F

MSHA flame resistant cover
Color available: Black, Blu

Fahrenheit 302/6

HIGH TEMPERATURE EXCEEDS SAE 100 R6



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
6FF-06-04	06	-4	6,4	1/4"	12,6	0.50	28	400	112	1600	65	2.60	0,11	0.08
6FF-10-06	10	-6	9,5	3/8"	15,8	0.62	28	400	112	1600	75	3.00	0,15	0.10
6FF-12-08	12	-8	12,7	1/2"	19,8	0.78	28	400	112	1600	100	3.90	0,22	0.15
6FF-16-10	16	-10	15,9	5/8"	23,1	0.91	24	350	96	1400	125	4.90	0,26	0.17
6FF-19-12	19	-12	19,0	3/4"	26,5	1.04	21	300	84	1200	150	5.90	0,31	0.21
6FF-25-16	25	-16	25,4	1"	32,5	1.28	21	300	84	1200	165	6.50	0,44	0.29

Applications: High temperature low pressure hose for hydraulic applications.
Meets or Exceeds SAE 100R6 performance
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: One high resistant textile braid
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 150°C except for air not higher than 121°C
-40°F to 302°F except for air not higher than 250°F

MSHA flame resistant cover

Hot oiler

TWO WIRE BRAIDS HOSE



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
HOIL-38-24	38	-24	38,1	1.1/2"	54,5	2.15	172	2500	516	7500	500	19.69	2,40	1.61

Applications: Static pressure, hot oiler applications.
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: two high tensile steel braids
Cover: Black or blue, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 150°C except for air not higher than 121°C
-40°F to 302°F except for air not higher than 250°F

MSHA flame resistant cover



LOW TEMPERATURE HOSES

The range is composed by spiral and braided hoses among with the 3WB and also Fighter version to reach low outdoor temperatures ranging between -57°C and +100°C

- 54 **ICE FIGHTER R12** LOW TEMPERATURE EXCEEDS SAE 100 R12 - EN 856 R12
- 54 **ICEFLEX DS15** LOW TEMPERATURE EXCEEDS SAE 100 R15
- 55 **ICEFLEX 4SH** LOW TEMPERATURE EXCEEDS EN 856 4SH
- 55 **ICEFLEX 4SP** LOW TEMPERATURE EXCEEDS EN 856 4SP
- 56 **ICEFLEX 1** LOW TEMPERATURE EXCEEDS SAE 100 R1AT - EN853 1SN
- 57 **ICEFLEX 2** LOW TEMPERATURE EXCEEDS SAE 100 R2AT - EN853 2SN
- 58 **ICEFLEX 3** LOW TEMPERATURE THREE WIRE BRAIDS HOSE
- 59 **ICE FIGHTER 1SC** LOW TEMPERATURE EXCEEDS EN 857 1SC
- 59 **ICEFLEX 17** LOW TEMPERATURE EXCEEDS SAE 100 R17
- 60 **ICEFLEX 16** LOW TEMPERATURE EXCEEDS SAE 100 R16 - EN 857 2SC
- 61 **ICE FIGHTER 2SC/R16** LOW TEMPERATURE EXCEEDS SAE 100 R16 - EN 857 2SC



Ice Fighter R12

LOW TEMPERATURE EXCEEDS SAE 100 R12 - EN 856 R12



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
ICFGT12-10-06	10	-6	9,5	3/8"	19,9	0.78	350	5100	1400	20400	130	5.12	0,73	0.49
ICFGT12-12-08	12	-8	12,7	1/2"	23,3	0.92	350	5100	1400	20400	180	7.09	0,90	0.60
ICFGT12-16-10	16	-10	15,9	5/8"	27,1	1.07	350	5100	1400	20400	200	7.87	1,08	0.73
ICFGT12-19-12	19	-12	19,0	3/4"	30,2	1.19	350	5100	1400	20400	240	9.45	1,33	0.89
ICFGT12-25-16	25	-16	25,4	1"	37,2	1.46	350	5100	1400	20400	300	11.81	1,95	1.31
ICFGT12-31-20	31	-20	31,8	1.1/4"	46,4	1.83	280	4000	1120	16000	420	16.54	1,62	1.09
ICFGT12-38-24	38	-24	38,1	1.1/2"	52,8	2.08	255	3700	1020	14800	500	19.69	3,21	2.16

Applications: Low temperature, very high pressure hose for severe hydraulic pulsing applications.
Reccomended for frigid working condition.
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Four high tensile steel spirals up to -16, six spirals -20 and -24
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-57°C to 100°C (125°C discontinuous)
-70°F to 212°F (257°F discontinuous)

Iceflex DS15

LOW TEMPERATURE EXCEEDS SAE 100 R15



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
ICR15-10-06	10	-6	9,5	3/8"	19,8	0.78	420	6100	1680	24400	150	5.91	0,73	0.49
ICR15-12-08	12	-8	12,7	1/2"	22,8	0.90	420	6100	1680	24400	200	7.87	0,94	0.63
ICR15-16-10	16	-10	15,9	5/8"	28	1.10	420	6100	1680	24400	230	9.06	1,14	0.77
ICR15-19-12	19	-12	19,0	3/4"	31,8	1.25	420	6100	1680	24400	265	10.43	1,52	1.02
ICR15-25-16	25	-16	25,4	1"	38	1.50	420	6100	1680	24400	300	11.81	2,03	1.36
ICR15-31-20	31	-20	31,8	1.1/4"	49,5	1.95	420	6100	1680	24400	350	13.78	3,58	2.41
ICR15-38-24	38	-24	38,1	1.1/2"	56,9	2.24	420	6100	1680	24400	420	16.54	4,65	3.12

Applications: Low temperature, very high pressure hose for severe hydraulic pulsing applications.
Reccomended for frigid working condition.
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Four high tensile steel spirals up to -16, six spirals -20 and -24
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-57°C to 100°C (125°C discontinuous)
-70°F to 212°F (257°F discontinuous)

Iceflex 4SH

LOW TEMPERATURE EXCEEDS EN 856 4SH



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
IC4SH-16-10	16	-10	15,9	5/8"	28,30	1.11	450	6500	1800	26000	250	9.84	1,36	0.91
IC4SH-19-12	19	-12	19,0	3/4"	31,70	1.25	425	6150	1700	24600	280	11.02	1,52	1.02
IC4SH-25-16	25	-16	25,4	1"	38,10	1.50	400	5800	1600	23200	340	13.39	2,00	1.34
IC4SH-31-20	31	-20	31,8	1.1/4"	45,00	1.77	350	5100	1400	20400	460	18.11	2,55	1.71
IC4SH-38-24	38	-24	38,1	1.1/2"	52,20	2.06	300	4350	1200	17400	560	22.05	3,01	2.02
ICR15-31-20	31	-20	31,8	1.1/4"	49,5	1.95	420	6100	1680	24400	350	13.78	3,58	2.41
ICR15-38-24	38	-24	38,1	1.1/2"	56,9	2.24	420	6100	1680	24400	420	16.54	4,65	3.12

Applications: Low temperature, very high pressure hose for severe hydraulic pulsing applications.
Reccomended for frigid working condition.
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Four high tensile steel spirals
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-57°C to 100°C (125°C discontinuous)
-70°F to 212°F (257°F discontinuous)

Iceflex 4SP

LOW TEMPERATURE EXCEEDS EN 856 4SP



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
IC4SP-06-04	6	-4	6,4	1/4"	17,6	0.69	500	7250	2000	29000	150	5.91	0,62	0.42
IC4SP-10-06	10	-6	9,5	3/8"	19,9	0.78	460	6700	1840	26800	180	7.09	0,72	0.48
IC4SP-12-08	12	-8	12,7	1/2"	23,8	0.94	440	6400	1760	25600	230	9.06	0,92	0.62
IC4SP-16-10	16	-10	15,9	5/8"	27,9	1.10	400	5800	1600	23200	250	9.84	1,12	0.75
IC4SP-19-12	19	-12	19,0	3/4"	31,9	1.26	380	5500	1520	22000	300	11.81	1,55	1.04
IC4SP-25-16	25	-16	25,4	1"	39,4	1.55	325	4700	1300	18800	340	13.39	2,01	1.35

Applications: Low temperature, very high pressure hose for severe hydraulic pulsing applications.
Reccomended for frigid working condition.
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Four high tensile steel spirals
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-57°C to 100°C (125°C discontinuous)
-70°F to 212°F (257°F discontinuous)



Iceflex 1

LOW TEMPERATURE EXCEEDS SAE 100 R1AT - EN853 1SN



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
11C-05-03	05	-3	4,8	3/16"	11,8	0.46	250	3650	1000	14600	90	3.50	0,18	0.12
11C-06-04	06	-4	6,4	1/4"	13,4	0.53	225	3250	900	13000	100	3.90	0,23	0.15
11C-08-05	08	-5	7,9	5/16"	15,0	0.59	215	3100	860	12400	115	4.50	0,27	0.18
11C-10-06	10	-6	9,5	3/8"	17,4	0.69	180	2600	720	10400	130	5.10	0,35	0.23
11C-12-08	12	-8	12,7	1/2"	20,5	0.81	160	2300	640	9200	180	7.10	0,41	0.28
11C-16-10	16	-10	15,9	5/8"	23,7	0.93	130	1900	520	7600	200	7.90	0,51	0.34
11C-19-12	19	-12	19,0	3/4"	27,7	1.09	105	1500	420	6000	240	9.50	0,63	0.42
11C-25-16	25	-16	25,4	1"	35,8	1.41	88	1300	352	5200	300	11.80	0,94	0.63
11C-31-20	31	-20	31,8	1.1/4"	43,5	1.71	63	900	252	3600	420	16.50	1,30	0.87
11C-38-24	38	-24	38,1	1.1/2"	50,5	1.99	50	725	200	2900	500	19.70	1,60	1.08

Applications: Low Temperature hose for medium pressure hydraulic applications. Recommend for using in frigid environments on construction equipment, machine tools and agriculture application. Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: One high tensile steel braid
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-57°C to 100°C (125°C discontinuous)
-70°F to 212°F (257°F discontinuous)

Version available:
MSHA HARC COVER

Iceflex 2

LOW TEMPERATURE EXCEEDS SAE 100 R2AT - EN853 2SN



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
21C-05-03	05	-3	4,8	3/16"	13,0	0.51	415	6000	1660	24000	90	3.50	0,30	0.20
21C-06-04	06	-4	6,4	1/4"	14,0	0.56	400	5800	1600	23200	100	4.00	0,33	0.22
21C-08-05	08	-5	7,9	5/16"	16,3	0.64	350	5100	1400	20400	115	4.50	0,45	0.30
21C-10-06	10	-6	9,5	3/8"	18,3	0.72	330	4800	1320	19200	125	5.00	0,50	0.34
21C-12-08	12	-8	12,7	1/2"	21,4	0.84	275	4000	1100	16000	180	7.00	0,59	0.40
21C-16-10	16	-10	15,9	5/8"	25,0	0.98	250	3600	1000	14400	200	8.00	0,74	0.49
21C-19-12	19	-12	19,0	3/4"	28,8	1.13	215	3100	860	12400	240	9.50	0,88	0.59
21C-25-16	25	-16	25,4	1"	37,0	1.45	165	2400	660	9600	300	12.00	1,33	0.90
21C-31-20	31	-20	31,8	1.1/4"	47,8	1.88	125	1800	500	7200	420	16.50	1,67	1.12
21C-38-24	38	-24	38,1	1.1/2"	54,2	2.13	90	1300	360	5200	500	20.00	2,30	1.55

Applications: Low Temperature hose for medium pressure hydraulic applications. Recommend for using in frigid environments on construction equipment, machine tools and agriculture application. Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Two high tensile steel braids
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-57°C to 100°C (125°C discontinuous)
-70°F to 212°F (257°F discontinuous)

Version available:
MSHA HARC COVER



Iceflex 3

LOW TEMPERATURE THREE WIRE BRAIDS HOSE



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
3IC-06-04	06	-4	6,4	1/4"	16,2	0.64	525	7650	2100	30600	100	3.90	0,49	0.33
3IC-10-06	10	-6	9,5	3/8"	21,1	0.83	500	7250	2000	29000	120	4.73	0,77	0.52
3IC-12-08	12	-8	12,7	1/2"	22,8	0.90	470	6850	1880	27400	160	6.30	0,82	0.55
3IC-16-10	16	-10	15,9	5/8"	27,5	1.08	410	6000	1640	24000	220	8.66	1,12	0.75
3IC-19-12	19	-12	19,0	3/4"	31,5	1.24	380	5500	1520	22000	260	10.24	1,28	0.86
3IC-25-16	25	-16	25,4	1"	37,6	1.48	330	4800	1320	19200	310	12.20	1,76	1.18

Applications: Low Temperature hose with extremely high working pressure and improved impulse cycles for greater performance.
Recommend for using in frigid environments on construction equipment, machine tools and agriculture application and deforesting machine.
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Three high tensile steel braids
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
57°C to 100°C (125°C discontinuous)
-70°F to 212°F (257°F discontinuous)

Version available:
MSHA HARC COVER

Ice Fighter 1SC

LOW TEMPERATURE EXCEEDS EN 857 1SC



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
ICF1SC-06-04	06	-4	6,4	1/4"	12,1	0.48	275	4000	1100	16000	45	177	0,18	0.12
ICF1SC-08-05	08	-5	7,9	5/16"	14,0	0.55	255	3700	1020	14800	55	217	0,23	0.15
ICF1SC-10-06	10	-6	9,5	3/8"	15,8	0.62	215	3100	860	12400	60	236	0,27	0.18
ICF1SC-12-08	12	-8	12,7	1/2"	19,4	0.76	170	2500	680	10000	70	276	0,36	0.24
ICF1SC-16-10	16	-10	15,9	5/8"	22,6	0.89	150	2200	600	8800	90	354	0,41	0.28
ICF1SC-19-12	19	-12	19,0	3/4"	26,3	1.04	125	1800	500	7200	100	394	0,53	0.36
ICF1SC-25-16	25	-16	25,4	1"	33,7	1.33	100	1450	400	5800	160	630	0,76	0.51
ICF1SC-31-20	31	-20	31,8	1.1/4"	41,0	1.61	90	1300	360	5200	210	827	1,05	0.71

Applications: Low temperature compact hose for medium pressure application with extreme flexibility.
Recommend for using in frigid environments on construction equipment, machine tools and agriculture application where a tighter bend radius is needed.
Meet and exceed EN 857 2SC performance.
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: One high tensile steel braid
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-57°C to 100°C (125°C discontinuous)
-70°F to 212°F (257°F discontinuous)

Version available:
MSHA HARC COVER

Iceflex 17

LOW TEMPERATURE EXCEEDS SAE 100 R17



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
IC17-06-04	06	-4	6,4	1/4"	12,3	0.48	210	3000	840	12000	50	197	0,18	0.12
IC17-08-05	08	-5	7,9	5/16"	14,0	0.55	210	3000	840	12000	55	217	0,21	0.14
IC17-10-06	10	-6	9,5	3/8"	15,9	0.63	210	3000	840	12000	65	256	0,27	0.18
IC17-12-08	12	-8	12,7	1/2"	19,1	0.75	210	3000	840	12000	90	354	0,38	0.26
IC17-16-10	16	-10	15,9	5/8"	23,9	0.94	210	3000	840	12000	100	394	0,64	0.43
IC17-19-12	19	-12	19,0	3/4"	28,0	1.10	210	3000	840	12000	120	472	0,80	0.54
IC17-25-16	25	-16	25,4	1"	35,3	1.39	210	3000	840	12000	150	591	1,15	0.77

Applications: Low temperature compact hose for medium pressure application with extreme flexibility.
Recommend for using in frigid environments on construction equipment, machine tools and agriculture application where a tighter bend radius is needed.
Meet and exceed SAE 100R17 performance.
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: One high tensile steel braid up to -8, two braids from -10 to -16
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-57°C to 100°C (125°C discontinuous)
-70°F to 212°F (257°F discontinuous)

Version available:
MSHA HARC COVER



Iceflex 16

LOW TEMPERATURE EXCEEDS SAE 100 R16 - EN 857 2SC



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
IC16-06-04	06	-4	6,4	1/4"	13,2	0.52	400	5800	1600	23200	50	1.96	0,25	0.17
IC16-08-05	08	-5	7,9	5/16"	15,0	0.59	350	5000	1400	20000	55	2.16	0,30	0.20
IC16-10-06	10	-6	9,5	3/8"	17,2	0.68	330	4800	1320	19200	65	2.55	0,40	0.27
IC16-12-08	12	-8	12,7	1/2"	20,8	0.82	275	4000	1100	16000	90	3.54	0,50	0.34
IC16-16-10	16	-10	15,9	5/8"	24,0	0.94	250	3600	1000	14400	100	3.93	0,55	0.37
IC16-19-12	19	-12	19,0	3/4"	27,7	1.09	215	3100	860	12400	120	4.72	0,75	0.50
IC16-25-16	25	-16	25,4	1"	35,1	1.38	165	2400	660	9600	150	5.90	1,10	0.74

Applications: Low temperature compact hose with high pressure application with extreme flexibility.
Recommend for using in frigid environments on construction equipment, machine tools and agriculture application where a tighter bend radius is needed. Meet and exceed SAE 100R16 / EN 857 2SC performance.
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Two high tensile steel braids
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-57°C to 100°C (125°C discontinuous)
-70°F to 212°F (257°F discontinuous)

Version available:
MSHA HARC COVER

Ice Fighter 2SC/R16

LOW TEMPERATURE EXCEEDS SAE 100 R16 - EN 857 2SC



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
ICF2C-06-04	06	-4	6,4	1/4"	13,2	0.52	420	6100	1680	24400	45	1.77	0,30	0.20
ICF2C-08-05	08	-5	7,9	5/16"	15,0	0.59	380	5500	1520	22000	55	2.17	0,35	0.24
ICF2C-10-06	10	-6	9,5	3/8"	17,2	0.68	350	5100	1400	20400	65	2.56	0,40	0.27
ICF2C-12-08	12	-8	12,7	1/2"	20,8	0.82	310	4500	1240	18000	80	3.15	0,55	0.37
ICF2C-16-10	16	-10	15,9	5/8"	24,0	0.94	280	4100	1120	16400	90	3.54	0,60	0.40
ICF2C-19-12	19	-12	19,0	3/4"	27,7	1.09	240	3500	960	14000	120	4.72	0,80	0.54
ICF2C-25-16	25	-16	25,4	1"	35,1	1.38	185	2700	740	10800	150	5.91	1,15	0.77
ICF2C-31-20	31	-20	31,8	1.1/4"	43,6	1.72	165	2400	660	9600	210	8.27	1,70	1.14
ICF2C-38-24	38	-24	38,1	1.1/2"	49,6	1.95	135	2000	540	8000	250	9.84	1,95	1.31

Applications: Low temperature compact hose with very high pressure application with extreme flexibility.
Recommend for using in frigid environments on construction equipment, machine tools and agriculture application where a tighter bend radius is needed. Meet and exceed SAE 100R16 / EN 857 2SC performance.
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Two high tensile steel braids
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-57°C to 100°C (125°C discontinuous)
-70°F to 212°F (257°F discontinuous)

Version available:
MSHA HARC COVER



SPECIAL APPLICATION HOSES

This category includes hoses for special applications such as fiber glass reinforced BOP hoses (API16D certified). Those suitable for the passage of fuel, for elevators and for forklifts (also available in twin version).

- 64 BOP 5000
- 64 BOP 3000
- 65 FIRE SUPPRESSION HOSE
- 66 FORKLIFT 1
- 66 FORKLIFT 2
- 67 SKYSCRAPER
- 67 PUSH-ON FUEL



BOP 5000



														
	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
DSBOP-5000-10-06	10	-6	9,5	3/8"	25,5	1.00	350	5000	1400	20000	130	5.12	0,38	0.26
Applications: Flexible hose for hydraulic system of Blowout Preventer control lines. Designed and manufactured according to API specification. Construction: Tube: oil-Resistant Synthetic rubber Reinforcement: Two high tensile steel braids and a fiber glass layer Cover: Synthetic red cover Temperature: - 40°C to 120°C (-40°F to 250°F) Certifications: API 16D LLOYD'S OD 1000/499 MSHA flame resistant cover														

BOP 3000



														
	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
DSBOP-3000-12-08	12	-8	12,7	1/2"	28,0	1.10	210	3000	840	12000	170	6.69	0,55	0.37
DSBOP-3000-19-12	19	-12	19,0	3/4"	35,5	1.40	210	3000	840	12000	240	9.45	0,80	0.54
DSBOP-3000-25-16	25	-16	25,4	1"	42,5	1.67	210	3000	840	12000	300	11.81	1,13	0.76
Applications: Flexible hose for hydraulic system of Blowout Preventer control lines. Designed and manufactured according to API specification. Construction: Tube: oil-Resistant Synthetic rubber Reinforcement: Two high tensile steel braids and a fiber glass layer Cover: Synthetic red cover Temperature: - 40°C to 120°C (-40°F to 250°F) Certifications: API 16D LLOYD'S OD 1000/499 MSHA flame resistant cover														

FIRE SUPPRESSION HOSE



														
	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
FSH-05-03	05	-3	4,8	3/16"	11,5	0.45	250	3650	1000	14600	90	3.50	0,18	0.12
FSH-06-04	06	-4	6,4	1/4"	12,8	0.50	225	3250	900	13000	100	3.90	0,22	0.15
FSH-10-06	10	-6	9,5	3/8"	16,9	0.66	180	2600	720	10400	130	5.10	0,33	0.22
FSH-12-08	12	-8	12,7	1/2"	19,9	0.78	160	2300	640	9200	180	7.10	0,41	0.28
FSH-16-10	16	-10	15,9	5/8"	23,1	0.90	130	1900	520	7600	200	7.90	0,50	0.34
FSH-19-12	19	-12	19,0	3/4"	27,1	1.06	105	1500	420	6000	240	9.50	0,58	0.39
FSH-25-16	25	-16	25,4	1"	35,1	1.38	88	1300	352	5200	300	11.80	0,92	0.62
Applications: Medium pressure hose for fire suppression application for mining, forestry and firefighting equipment. The red cover is for easily identification in this application. Meets SAE 100R1 performance Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases. Construction: Tube: Black synthetic rubber resistant to oils Reinforcement: One high tensile steel braid Cover: Red, synthetic rubber resistant to oils, abrasion and weather condition Temperature: 40°C to 100°C (125°C discontinuous), -40°F to 212°F (257°F discontinuous) MSHA flame resistant cover														



Forklift 1



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
FKL1-06-04	06	-4	6,4	1/4"	12,3	0.48	210	3050	840	12200	35	1.35	0,20	0.13
FKL1-08-05	08	-5	7,9	5/16"	14	0.55	210	3050	840	12200	40	1.57	0,25	0.17
FKL1-10-06	10	-6	9,5	3/8"	15,9	0.62	210	3050	840	12200	40	1.57	0,30	0.20
FKL1-12-08	12	-8	12,7	1/2"	19,1	0.75	210	3050	840	12200	50	1.96	0,40	0.17

Applications: High pressure hose with one wire braid construction with very tight bending radius specifically designed for forklift application and for application where the hose is used over pulleys. Available also in twin line.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: One high tensile steel braid
Cover: Smooth synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 100°C (125°C discontinuous)
-40°F to 212°F (257°F discontinuous)

Version available:
MSHA COVER
MSHA HARC COVER

Forklift 2



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
FKL2-06-04	06	-4	6,4	1/4"	13,2	0.51	250	3600	1000	14400	35	1.35	0,30	0.20
FKL2-08-05	08	-5	7,9	5/16"	15,1	0.59	250	3600	1000	14400	40	1.57	0,35	0.24
FKL2-10-06	10	-6	9,5	3/8"	16,6	0.65	250	3600	1000	14400	40	1.57	0,40	0.27
FKL2-12-08	12	-8	12,7	1/2"	20,1	0.79	250	3600	1000	14400	50	1.96	0,50	0.34
FKL2-16-10	16	-10	15,9	5/8"	23,8	0.93	250	3600	1000	14400	70	1.97	0,65	0.44

Applications: High pressure hose with two wire braids construction with very tight bending radius specifically designed for forklift application and for application where the hose is used over pulleys. Available also in twin line.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Two high tensile steel braids
Cover: Smooth synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 100°C (125°C discontinuous)
-40°F to 212°F (257°F discontinuous)

Version available:
MSHA COVER
MSHA HARC COVER

Skyscraper



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
SKS-19-12	19	-12	19,0	3/4"	26,3	1.03	50	725	450	2900	100	3.93	0,532	0.35
SKS-25-16	25	-16	25,4	1"	37,8	1.48	50	725	450	2900	180	7.08	0,75	0.50
SKS-31-20	31	-20	31,8	1.1/4"	42,2	1.66	50	725	450	2900	210	8.26	1,12	.075
SKS-38-24	38	-24	38,1	1.1/2"	50,4	1.98	50	725	450	2900	300	11.81	1,9	1.28
SKS-51-32	51	-32	50.8	2"	64	2.51	45	650	405	2600	500	19.68	2,86	1.92

Applications: High pressure hose for elevators. The hose is in compliance with the standard EN 81-20 and guarantee a 9:1 safety factor.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: One high tensile steel braid up to -20 and two high tensile steel braids for -24 and -32
Cover: Synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 100°C
-40°F to 212°F

Push-on Fuel



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
PUSHON-06-04-FL	06	-4	6,4	1/4"	12,5	0.49	21	304	84	1216	75	3.00	0,11	0.07
PUSHON-10-06-FL	10	-6	9,5	3/8"	15,6	0.61	21	304	84	1216	75	3.00	0,15	0.10
PUSHON-12-08-FL	12	-8	12,7	1/2"	19,1	0.75	21	304	84	1216	125	5.00	0,22	0.14
PUSHON-16-10-FL	16	-10	15,9	5/8"	22,6	0.89	21	304	84	1216	150	6.00	0,26	0.17
PUSHON-19-12-FL	19	-12	19,0	3/4"	26,1	1.03	21	304	84	1216	175	7.00	0,31	0.20
PUSHON-25-16-FL	25	-16	25,4	1"	33	1.30	21	304	84	1216	200	8.00	0,44	0.29

Applications: Low pressure hose for hydraulic applications Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases. Push-On hose can be used with Push-On fittings but is not recommended for vibrating or critical application. Compatible with gasoline, diesel and biodiesel. Meets SAE 30R2 SAE 30R6 and SAE 30R7 requirements.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: One high resistant fiber braid
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 100°C (125°C discontinuous)
-40°F to 212°F (257°F discontinuous)

Version available:
MSHA COVER

Color available:
Black



RAILWAY HOSES

These hoses are certified in compliance with EN 45545 and are suitable for the railway sector.

- 70 **DS-4SH RAILWAY**
EXCEEDS EN 856 4SH
- 70 **DS-4SP RAILWAY**
EXCEEDS EN 856 4SP
- 71 **DS1-T RAILWAY**
EXCEEDS SAE 100 R1AT - EN 853 1SN
- 71 **DS2-T RAILWAY**
EXCEEDS SAE 100 R2AT - EN 853 2SN
- 72 **FIGHTER 1SC RAILWAY**
EXCEEDS EN 857 1SC
- 73 **FIGHTER 2SC/R16 RAILWAY**
EXCEEDS SAE 100 R16 - EN 857 2SC



DS-4SH Railway

EXCEEDS EN 856 4SH



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
4SH-16-10-RAILWAY	16	-10	15,9	5/8"	28,30	1.11	450	6500	1800	26000	250	9.84	1,35	0.91
4SH-19-12-RAILWAY	19	-12	19,0	3/4"	31,70	1.25	425	6150	1700	24600	280	11.02	1,50	1.01
4SH-25-16-RAILWAY	25	-16	25,4	1"	38,10	1.50	400	5800	1600	23200	340	13.39	2,00	1.34
4SH-31-20-RAILWAY	31	-20	31,8	1.1/4"	45,00	1.77	350	5100	1400	20400	460	18.11	2,45	1.65
4SH-38-24-RAILWAY	38	-24	38,1	1.1/2"	52,20	2.06	300	4350	1200	17400	560	22.05	3,00	2.02

Applications: Very high pressure hose for severe hydraulic pulsing applications. Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Four high tensile steel spirals
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 100°C (125°C discontinuous)
-40°F to 212°F (257°F discontinuous)
Certifications:
EN45545-2

DS-4SP Railway

EXCEEDS EN 856 4SP



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
4SP-06-04-RAILWAY	6	-4	6,4	1/4"	17,6	0.69	500	7250	2000	29000	150	5.91	0,60	0.40
4SP-10-06-RAILWAY	10	-6	9,5	3/8"	19,9	0.78	460	6700	1840	26800	180	7.09	0,70	0.47
4SP-12-08-RAILWAY	12	-8	12,7	1/2"	23,8	0.94	440	6400	1760	25600	230	9.06	0,90	0.60
4SP-16-10-RAILWAY	16	-10	15,9	5/8"	27,9	1.10	400	5800	1600	23200	250	9.84	1,10	0.74
4SP-19-12-RAILWAY	19	-12	19,0	3/4"	31,9	1.26	380	5500	1520	22000	300	11.81	1,50	1.01
4SP-25-16-RAILWAY	25	-16	25,4	1"	39,4	1.55	325	4700	1300	18800	340	13.39	2,00	1.34
4SP-31-20-RAILWAY	31	-20	31,8	1.1/4"	50,3	1.98	240	3500	960	14000	460	18.11	3,10	2.08
4SP-38-24-RAILWAY	38	-24	38,1	1.1/2"	56,7	2.23	210	3000	840	12000	560	22.05	3,60	2.42

Applications: Very high pressure hose for severe hydraulic pulsing applications specifically designed for railway applications. Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Four high tensile steel spirals
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 100°C (125°C discontinuous)
-40°F to 212°F (257°F discontinuous)
Certifications:
EN45545-2

DS1-T Railway

EXCEEDS SAE 100 R1AT - EN 853 1SN



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
1SN-06-04-RAILWAY	06	-4	6,4	1/4"	12,8	0.50	225	3250	900	13.000	100	4.00	0,21	0.14
1SN-08-05-RAILWAY	08	-5	7,9	5/16"	14,4	0.57	215	3100	860	12.400	115	4.50	0,26	0.18
1SN-10-06-RAILWAY	10	-6	9,5	3/8"	16,9	0.67	180	2600	720	10.400	125	4.92	0,32	0.22
1SN-12-08-RAILWAY	12	-8	12,7	1/2"	19,9	0.78	160	2300	640	9.200	180	7.09	0,40	0.27
1SN-16-10-RAILWAY	16	-10	15,9	5/8"	23,1	0.91	130	1900	520	7.600	205	8.07	0,46	0.31
1SN-19-12-RAILWAY	19	-12	19,0	3/4"	27,1	1.07	105	1500	420	6.000	240	9.45	0,57	0.38
1SN-25-16-RAILWAY	25	-16	25,4	1"	35,1	1.38	87	1300	348	5.200	300	11.81	0,89	0.60
1SN-31-20-RAILWAY	31	-20	31,8	1.1/4"	42,5	1.67	62	900	248	3.600	420	16.54	1,19	0.80
1SN-38-24-RAILWAY	38	-24	38,1	1.1/2"	49,8	1.96	50	725	200	2.900	500	19.69	1,61	1.08

Applications: Medium pressure hose for hydraulic applications specifically designed for railway application. Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: One high tensile steel braid
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 100°C (125°C discontinuous)
-40°F to 212°F (257°F discontinuous)
Certifications:
EN45545-2

DS2-T Railway

EXCEEDS SAE 100 R2AT - EN 853 2SN



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
2SN-06-04-RAILWAY	06	-4	6,4	1/4"	14,3	0.56	400	5800	1600	23200	100	3.94	0,34	0.23
2SN-08-05-RAILWAY	08	-5	7,9	5/16"	16	0.63	350	5100	1400	20400	115	4.53	0,41	0.28
2SN-10-06-RAILWAY	10	-6	9,5	3/8"	18,4	0.72	330	4800	1320	19200	125	4.92	0,50	0.33
2SN-12-08-RAILWAY	12	-8	12,7	1/2"	21,3	0.84	275	4000	1100	16000	180	7.09	0,60	0.40
2SN-16-10-RAILWAY	16	-10	15,9	5/8"	24,7	0.97	250	3600	1000	14400	205	8.07	0,73	0.49
2SN-19-12-RAILWAY	19	-12	19,0	3/4"	28,6	1.13	215	3100	860	12400	240	9.45	0,87	0.58
2SN-25-16-RAILWAY	25	-16	25,4	1"	37,2	1.46	165	2400	660	9600	300	11.81	1,29	0.87
2SN-31-20-RAILWAY	31	-20	31,8	1.1/4"	46,7	1.84	125	1800	500	7200	420	16.54	1,97	1.33
2SN-38-24-RAILWAY	38	-24	38,1	1.1/2"	53,7	2.11	90	1300	360	5200	500	19.69	2,36	1.58

Applications: High pressure hose for hydraulic applications specifically designed for railway application. Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Two high tensile steel braids
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 100°C (125°C discontinuous)
-40°F to 212°F (257°F discontinuous)
Certifications:
EN45545-2



Fighter 1SC Railway

EXCEEDS EN 857 1SC



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
FGT1SC-06-04-RAILWAY	06	-4	6,4	1/4"	12,1	0.48	275	4000	1100	16000	45	1.77	0,18	0.12
FGT1SC-08-05-RAILWAY	08	-5	7,9	5/16"	14	0.55	255	3700	1020	14800	55	2.17	0,23	0.15
FGT1SC-10-06-RAILWAY	10	-6	9,5	3/8"	15,8	0.62	215	3100	860	12400	60	2.36	0,27	0.18
FGT1SC-12-08-RAILWAY	12	-8	12,7	1/2"	19,4	0.76	170	2500	680	10000	70	2.76	0,36	0.24
FGT1SC-16-10-RAILWAY	16	-10	15,9	5/8"	22,6	0.89	150	2200	600	8800	90	3.54	0,41	0.28
FGT1SC-19-12-RAILWAY	19	-12	19,0	3/4"	26,3	1.04	125	1800	500	7200	100	3.94	0,53	0.36
FGT1SC-25-16-RAILWAY	25	-16	25,4	1"	33,7	1.33	100	1450	400	5800	160	6.30	0,76	0.51
FGT1SC-31-20-RAILWAY	31	-20	31,8	1.1/4"	41	1.61	90	1300	360	5200	210	8.27	1,05	0.71

Applications: Medium pressure hose with extreme flexibility. Recommended for hydraulic applications where a tighter bend radius is needed. Specifically designed for railway applications.
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: One high tensile steel braid
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 100°C (125°C discontinuous)
-40°F to 212°F (257°F discontinuous)
Certifications:
EN45545-2

Fighter 2SC/R16 Railway

EXCEEDS SAE 100 R16 - EN 857 2SC



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
FGT16-06-04-RAILWAY	06	-4	6,4	1/4"	13,2	0.52	420	6100	1680	24400	45	1.77	0,30	0.20
FGT16-08-05-RAILWAY	08	-5	7,9	5/16"	15,2	0.60	380	5500	1520	22000	55	2.17	0,35	0.24
FGT16-10-06-RAILWAY	10	-6	9,5	3/8"	16,7	0.66	350	5100	1400	20400	65	2.56	0,40	0.27
FGT16-12-08-RAILWAY	12	-8	12,7	1/2"	20,2	0.80	310	4500	1240	18000	80	3.15	0,55	0.37
FGT16-16-10-RAILWAY	16	-10	15,9	5/8"	24	0.94	280	4100	1120	16400	90	3.54	0,60	0.40
FGT16-19-12-RAILWAY	19	-12	19,0	3/4"	27,8	1.09	240	3500	960	14000	120	4.72	0,80	0.54
FGT16-25-16-RAILWAY	25	-16	25,4	1"	35,1	1.38	185	2700	740	10800	150	5.91	1,15	0.77
FGT16-31-20-RAILWAY	31	-20	31,8	1.1/4"	43,6	1.72	165	2400	660	9600	250	9.84	1,70	1.14
FGT16-38-24-RAILWAY	38	-24	38,1	1.1/2"	50,4	1.98	135	2000	540	8000	300	11.81	1,95	1.31

Applications: Very high pressure hose with extreme flexibility. Exceeding SAE 100R16 – EN 857 2SC
Recommended for hydraulic applications where a tighter bend radius is needed, specifically designed for hydraulic applications.
Suitable for passage of mineral and vegetable oils, water-based solutions, water air and inert gases.

Construction:
Tube: Black synthetic rubber resistant to oils
Reinforcement: Two high tensile steel braids
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to 100°C (125°C discontinuous)
-40°F to 212°F (257°F discontinuous)
Certifications:
EN45545-2



WATERBLAST

The whole waterblast range from 10,000 to 20,000 PSI is available. This product family is enriched with fittings and relevant assembly procedure.

- 76 **WATERBLAST 700 BAR** 10000PSI
- 76 **WATERBLAST 850 BAR** 12000PSI
- 77 **WATERBLAST 1250 BAR** 18000PSI
- 77 **WATERBLAST 1380 BAR** 20000PSI

WATERBLAST FITTINGS

- 78 **METRIC HEAVY FEMALE 24° FLARE**
with SLIP-ON NUT
- 78 **NPTF MALE 60° CONE SEAT**
- 78 **BSP FEMALE 60° FLARE**
with THRUST WIRED NUT
- 79 **FERRULE FOR WB 700BAR**
& WB 850BAR & WB 1250BAR
- 79 **FERRULE FOR WB 1380 BAR**
- 79 **TYPE M FEMALE SWIVEL 1" x 12 UNF**



Waterblast 700 Bar

10000PSI



														
	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
WB700-06-04	6	-04	6.4	1/4"	16,9	0.67	700	10000	1750	25000	125	4.92	0,61	0.41
WB700-10-06	10	-06	9.5	3/8"	20,3	0.80	700	10000	1750	25000	180	7.09	0,75	0.50
WB700-12-08	12	-08	12.7	1/2"	23,2	0.91	700	10000	1750	25000	220	8.61	0,94	0.63
WB700-19-12	19	-12	19.0	3/4"	31,4	1.24	700	10000	1750	25000	280	11.02	1,63	1.10
WB700-25-16	25	-16	25.4	1"	38,1	1.50	700	10000	1750	25000	350	14.00	2,18	1.46

Applications: Very high constant pressure hose for water descaling system.
High abrasion resistant cover
Suitable for passage of water, water-soap, emulsion.
Safety factor 1:2,5

Construction:
Tube: Black synthetic rubber
Reinforcement: Four high tensile steel spirals
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to +90°C Operating Temperature Range
-10°C to +80°C Continuous Service Temperature Range
-40°F to 194°F Operating Temperature Range
+14°F to 176°F Continuous Service Temperature Range

Waterblast 850 Bar

12000PSI



														
	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
WB850-06-04	6	-04	6.4	1/4"	17,1	0.67	850	12000	2125	30000	125	4.92	0,61	0.41
WB850-10-06	10	-06	9.5	3/8"	20,5	0.81	850	12000	2125	30000	150	5.91	0,84	0.56
WB850-12-08	12	-08	12.7	1/2"	24,1	0.95	850	12000	2125	30000	260	10.50	0,97	0.65
WB850-19-12	19	-12	19.0	3/4"	31,7	1.25	850	12000	2125	30000	280	11.02	1,70	1.14
WB850-25-16	25	-16	25.4	1"	38,6	1.52	850	12000	2125	30000	355	13.98	2,26	1.52

Applications: Very high constant pressure hose for water descaling system.
Suitable for passage of water, water-soap, emulsion.
Safety factor 1:2,5

Construction:
Tube: Black synthetic rubber
Reinforcement: Four high tensile steel spirals
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to +90°C Operating Temperature Range
-10°C to +80°C Continuous Service Temperature Range
-40°F to 194°F Operating Temperature Range
+14°F to 176°F Continuous Service Temperature Range

Waterblast 1250 Bar

18000PSI



														
	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
WB1250-06-04	6	-04	6.4	1/4"	17,3	0.68	1250	18000	3125	45000	200	7.87	0,68	0.46
WB1250-10-06	10	-06	9.5	3/8"	21,3	0.84	1250	18000	3125	45000	230	9.06	0,82	0.55
WB1250-12-08	12	-08	12.7	1/2"	25,6	1.01	1100	16000	2750	40000	230	9.06	1,13	0.76
WB1250-19-12	19	-12	19.0	3/4"	32,8	1.29	1000	14500	2500	36250	250	9.84	1,73	1.16

Applications: Very high constant pressure hose for water descaling system.
Suitable for passage of water, water-soap, emulsion.
Safety factor 1:2,5

Construction:
Tube: Black synthetic rubber
Reinforcement: Four high tensile steel spirals up to -10, Six spirals for -8
Cover: black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to +90°C Operating Temperature Range
-10°C to +80°C Continuous Service Temperature Range
-40°F to 194°F Operating Temperature Range
+14°F to 176°F Continuous Service Temperature Range

Waterblast 1380 Bar

20000PSI



														
	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
WB1380-06-04	6	-04	6.4	1/4"	17,8	0.70	1380	20000	3450	50000	125	4.92	0,73	0.49
WB1380-10-06	10	-06	9.5	3/8"	21,5	0.85	1380	20000	3450	50000	150	5.91	1,05	0.71
WB1380-12-08	12	-08	12.7	1/2"	28,8	1.13	1450	21000	3625	52500	250	9.84	1,87	1.26
WB1380-19-12	19	-12	19.0	3/4"	36,2	1.43	1350	19600	3375	49000	280	11.02	2,65	1.78

Applications: Very high constant pressure hose for water descaling system.
Suitable for passage of water, water-soap, emulsion.
Safety factor 1:2,5

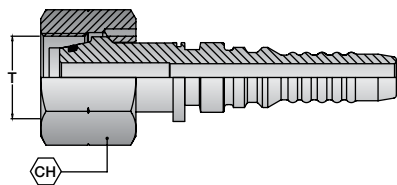
Construction:
Tube: Black synthetic rubber
Reinforcement: Four high tensile steel spirals up to -6, six spirals -8 and -12
Cover: Black, synthetic rubber resistant to oils, abrasion and weather condition

Temperature:
-40°C to +90°C Operating Temperature Range
-10°C to +80°C Continuous Service Temperature Range
-40°F to 194°F Operating Temperature Range
+14°F to 176°F Continuous Service Temperature Range



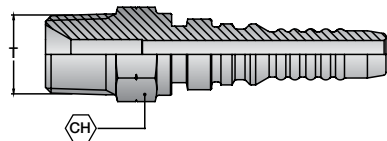
Metric Heavy Female 24° Flare

WITH SLIP-ON NUT



	DN	INCH	SIZE	THREAD	CH
M300-04-20	6	1/4	-04	M 20x1,5	27
M300-06-22	10	3/8	-06	M 22x1,5	27
M300-06-24	10	3/8	-06	M 24x1,5	32
M300-08-24	12	1/2	-08	M 24x1,5	32
M300-12-36	19	3/4	-12	M 36x2	46
M300-16-42	25	1	-16	M 42x2	50

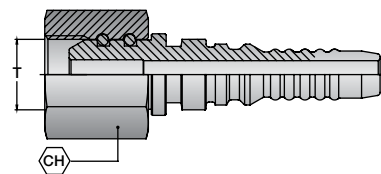
NPTF male 60° cone seat



	DN	INCH	SIZE	THREAD	CH
N100-04-04	6	1/4	-4	1/4" - 18	14
N100-06-06	10	3/8	-06	3/8" - 18	19
N100-08-08	12	1/2	-08	1/2" - 14	22
N100-12-12	19	3/4	-12	3/4" - 14	27
N100-16-16	25	1	-16	1" - 11.5	36

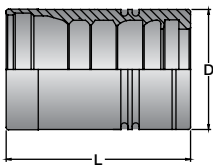
BSP Female 60° Flare

WITH THRUST WIRED NUT



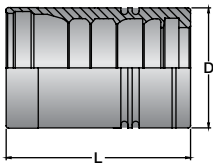
	DN	INCH	SIZE	THREAD	CH
B200-06-06	10	3/8	-06	3/8" - 19	22
B200-08-08	12	1/2	-08	1/2" - 14	30
B200-12-12	19	3/4	-12	3/4" - 14	36

Ferrule For WB 700bar & WBb 850bar & WB 1250bar



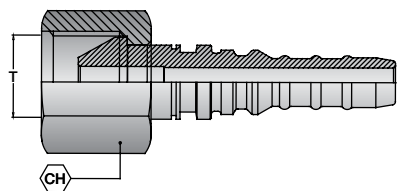
	DN	INCH	SIZE	THREAD	CH
F42WB-04	6	1/4	-04	23	39
F42WB-06	10	3/8	-06	30	48
F42WB-08	12	1/2	-08	33	51
F42WB-12	19	3/4	-12	44	65
F40WB-16	25	1	-16	50	68

Ferrule For WB 1380 Bar



	DN	INCH	SIZE	THREAD	CH
F42WB-04	6	1/4	-04	23	39
F42WB-06	10	3/8	-06	30	48
F62WB-08	12	1/2	-08	37	48
F62WB-12	19	3/4	-12	48	65

Type M Female Swivel 1" X 12 Unf



	DN	INCH	SIZE	THREAD	CH
F58U-08-12	12	1/2	-08	1"x12UNF	32



CLEANER HOSES

This range is available in the standard and compact versions in black, blue or gray colors.

- 82 **HOT WATER 210** COMPACT
- 82 **HOT WATER 210** THIN COVER
- 83 **HOT WATER 250** THIN COVER
- 83 **HOT WATER 315** THIN COVER
- 84 **HOT WATER 400** COMPACT
- 84 **HOT WATER 400** THIN COVER
- 84 **HOT WATER 500** THIN COVER
- 85 **HOT WATER 600** THIN COVER
- 85 **WATER WAVE**



Hot Water 210 Compact



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
210K-06-04	06	-4	6,4	1/4"	12,1	0.48	210	3100	840	12400	45	1.77	0,18	0.12
210K-08-05	08	-5	7,9	5/16"	14,0	0.55	210	3100	840	12400	55	2.17	0,23	0.15
210K-10-06	10	-6	9,5	3/8"	15,8	0.62	210	3100	840	12400	60	2.36	0,27	0.18
210K-12-08	12	-8	12,7	1/2"	19,4	0.76	180	2600	720	10400	70	2.76	0,36	0.24
210K-16-10	16	-10	15,9	5/8"	22,6	0.89	130	1900	520	7600	90	3.54	0,41	0.28

Applications: Extremely flexible, high pressure, compact hose for cleaners.
Suitable for passage of water, water-soap, emulsion.
Safety factor 1:4 (according to IEC 335-2)

Construction:
Tube: Black synthetic rubber
Reinforcement: One high tensile steel braid
Cover: Black or blue, synthetic rubber resistant to abrasion and weather condition

Temperature:
-40°C to 150°C
-40°F to 302°F

Hot Water 210 Thin cover



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
210T-06-04	06	-4	6,4	1/4"	12,8	0.50	210	3100	840	12400	100	3.94	0,21	0.14
210T-08-05	08	-5	7,9	5/16"	14,4	0.57	210	3100	840	12400	110	4.33	0,26	0.18
210T-10-06	10	-6	9,5	3/8"	16,9	0.67	210	3100	840	12400	120	4.72	0,32	0.22
210T-12-08	12	-8	12,7	1/2"	19,9	0.78	180	2600	720	10400	160	6.30	0,40	0.27
210T-16-10	16	-10	15,9	5/8"	23,1	0.91	130	1900	520	7600	200	7.87	0,46	0.31

Applications: Extremely flexible, high pressure hose for cleaners.
Suitable for passage of water, water-soap, emulsion.
Safety factor 1:4 (according to IEC 335-2)

Construction:
Tube: Black synthetic rubber
Reinforcement: One high tensile steel braid
Cover: Black or blue, synthetic rubber resistant to abrasion and weather condition

Temperature:
-40°C to 150°C
-40°F to 302°F

Hot Water 250 Thin cover



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
250T-06-04	06	-4	6,4	1/4"	12,8	0.50	250	3650	1000	14600	100	3.94	0,21	0.14
250T-08-05	08	-5	7,9	5/16"	14,4	0.57	250	3650	1000	14600	110	4.33	0,26	0.18
250T-10-06	10	-6	9,5	3/8"	16,9	0.67	250	3650	1000	14600	120	4.72	0,32	0.22
250T-12-08	12	-8	12,7	1/2"	19,9	0.78	210	3100	840	12400	160	6.30	0,40	0.27

Applications: High pressure hose for cleaners.
Suitable for passage of water, water-soap, emulsion.
Safety factor 1:4 (according to IEC 335-2)

Tube: Black synthetic rubber
Reinforcement: One high tensile steel braid
Cover: Black or blue, synthetic rubber resistant to abrasion and weather condition

Temperature:
-40°C to 150°C
-40°F to 302°F

Hot Water 315 Thin cover



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
315T-06-04	06	-4	6,4	1/4"	13,2	0.52	315	4600	1260	18400	100	3.94	0,25	0.17
315T-08-05	08	-5	7,9	5/16"	14,6	0.57	315	4600	1260	18400	110	4.33	0,27	0.18
315T-10-06	10	-6	9,5	3/8"	16,6	0.65	315	4600	1260	18400	120	4.72	0,33	0.22

Applications: One Braid, very good performance hose for cleaners.
Suitable for passage of water, water-soap, emulsion.
Safety factor 1:4 (according to IEC 335-2)

Construction:
Tube: Black synthetic rubber
Reinforcement: One high tensile steel braid
Cover: Black or blue, synthetic rubber resistant to abrasion and weather condition

Temperature:
-40°C to 150°C
-40°F to 302°F



Hot Water 400

Compact



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
400K-06-04	06	-4	6,4	1/4"	13,3	0.52	400	5800	1600	23200	60	2.36	0,27	0.18
400K-08-05	08	-5	7,9	5/16"	15,2	0.60	400	5800	1600	23200	70	2.76	0,34	0.23
400K-10-06	10	-6	9,5	3/8"	17,0	0.66	400	5800	1600	23200	80	3.15	0,40	0.27
400K-12-08	12	-8	12,7	1/2"	20,9	0.82	300	4350	1200	17400	100	3.94	0,54	0.36

Applications: High pressure, compact hose for cleaners.
Suitable for passage of water, water-soap, emulsion.
Safety factor 1:4 (according to IEC 335-2)

Construction:
Tube: Black synthetic rubber
Reinforcement: Two high tensile steel braids
Cover: Black or blue, synthetic rubber resistant to abrasion and weather condition

Temperature:
-40°C to 150°C
-40°F to 302°F

Hot Water 400

Thin cover



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
400T-06-04	06	-4	6,4	1/4"	14,6	0.57	400	5800	1600	23200	100	3.94	0,37	0.25
400T-08-05	08	-5	7,9	5/16"	16,1	0.63	400	5800	1600	23200	110	4.33	0,42	0.28
400T-10-06	10	-6	9,5	3/8"	18,6	0.73	400	5800	1600	23200	120	4.72	0,53	0.36
400T-12-08	12	-8	12,7	1/2"	21,4	0.84	300	4350	1200	17400	160	6.30	0,61	0.41

Applications: High pressure, compact hose for cleaners.
Suitable for passage of water, water-soap, emulsion.
Safety factor 1:4 (according to IEC 335-2)

Construction:
Tube: Black synthetic rubber
Reinforcement: Two high tensile steel braids
Cover: Black or blue, synthetic rubber resistant to abrasion and weather condition

Temperature:
-40°C to 150°C
-40°F to 302°F

Hot Water 500

Thin cover



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
500T-10-06	10	-6	9,5	3/8"	19,7	0.78	500	7250	2000	29000	125	5.00	0,76	0.51

Applications: Very high pressure hose for cleaners.
Suitable for passage of water, water-soap, emulsion.
Safety factor 1:4 (according to IEC 335-2)

Construction:
Tube: Black synthetic rubber
Reinforcement: Two high tensile steel braids
Cover: Black or blue, synthetic rubber resistant to abrasion and weather condition

Temperature:
-40°C to 150°C
-40°F to 302°F

Hot Water 600

Thin cover



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
600K-06-04	06	-4	6,4	1/4"	13,2	0.52	600	8700	1800	26100	100	3.93	0,32	0.22
600K-08-05	08	-5	7,9	5/16"	15	0.59	600	8700	1800	26100	110	4.33	0,35	0.24
600K-10-06	10	-6	9,5	3/8"	17,2	0.68	600	8700	1800	26100	120	4.72	0,4	0.27
600K-12-08	12	-8	12,7	1/2"	20,3	0.80	600	8700	1800	26100	160	6.29	0,6	0.40

Applications: Very High pressure, compact hose for cleaners.
Exceeding performance required by EN 1829-2. Safety factor 3:1

Construction:
Tube: Black synthetic rubber
Reinforcement: Two high tensile steel braids
Cover: Black or blue, synthetic rubber resistant to abrasion and weather condition

Temperature:
-40°C to 150°C
-40°F to 302°F

Water Wave

STEAM CLEANING SERVICE UP TO 163°C (325°F)



	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
DSWW-10-06	10	-6	9,5	3/8"	17,4	0.69	25	350	180	7.09	0,19	0.13		
DSWW-12-08	12	-8	12,7	1/2"	21	0.83	25	350	270	10.63	0,38	0.26		

PRESSURE WASHER SERVICE UP TO 121°C (250°F)

	HOSE I.D.				HOSE O.D.		WORKING PRESSURE		BURST PRESSURE		MINIMUM BEND RADIUS		WEIGHT	
	DN	size	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	Kg/m	lbs/ft
DSWW-10-06	10	-6	9,5	3/8"	17,4	0.69	210	3000	180	7.09	0,19	0.13		
DSWW-12-08	12	-8	12,7	1/2"	21	0.83	170	2500	270	10.63	0,38	0,26		

Applications: For use on either steam cleaner machines or combination steam cleaner/pressure washer machines.

Construction:
Tube: Synthetic rubber
Reinforcement: One high tensile steel braid
Cover: Synthetic black cover

GENERAL INFORMATION

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ABRASION RESISTANT COVER

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GENERAL INFORMATION

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NORMOGRAM

FOR DETERMINATION OF NOMINAL HOSE DIAMETER

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HOSE PRESSURE DROPS TABLE

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ENGINEERING DATA

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CONVERT FACTORS

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FLUID COMPATIBILITY CHART

ABRASION-RESISTANT COVERS
HARC AND ENDLESS COVER

STANDARD COVER

- Exceeding the standard abrasion requirement
- Resistant to oils
- Resistant to ozone
- Resistant to UV rays
-

HARC COVER

- High abrasion resistant cover
- 10 times the abrasion required by the standard
- Resistant to oils
- Improved resistant to ozone
- Improved resistant to UV rays
-

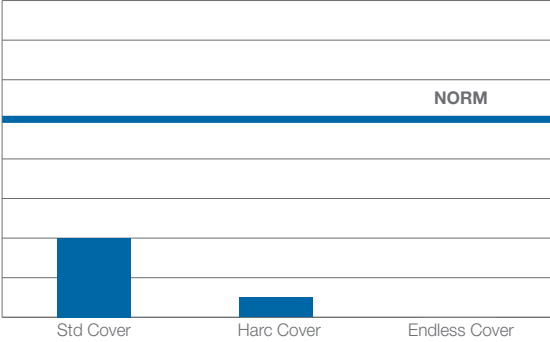
ENDLESS COVER

- Extreme high abrasion resistant cover
- Endless cover has been tested over 1.000.000 cycles without loss of weight
- 10 times the abrasion required by the standard
- Improved resistant to oils
- Improved resistant to ozone
- Improved resistant to UV rays

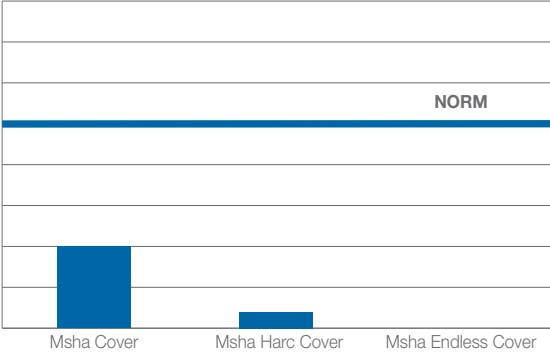
ABRASION TEST

ISO 6945 - Hose loss of weight after 2.000 cycles

STANDARD COVER



MSHA COVER



SAFETY AWARENESS FACTORS AFFECTING HYDRAULIC HOSES LIFE

- Extreme care is necessary when connecting hydraulic hose to power sources:
- Always assure that both ends of the hose assembly are not excessively bent in order to prevent kinks and stress at the coupling
 - Never use a hose as a means to carry, pull, lift or transport any hydraulic tools or hydraulic equipment
 - Exposed hose near the operator, should be covered with a fluid deflection apparatus, such as nylon sleeving for protection against a injection injuries, should an hose break occur
 - If the hose should be subjected to external solicitations that can cause damage, an appropriate overall spring guard should be used

- CRITICAL ITEMS
- Although all applications are potentially dangerous when an hose is involved, a few are of particular concern because their danger is not always so obviuos or generally understood. Some of these more critical situations are summarized here below:
- LP Gas: LP Gas has volatile characteristics that require special hose construction. The rubber compound of the tube has to be designed to handle LP gas and the cover must be perforated to prevent gas building up among the various layers of the hose. DO NOT USE screw together with reusable fittings.
 - NATURAL GAS: The molecules of natural gas are small and can easely permeate through the hose structure. This permeation rises when pressure increases and the natural gas accumulates with possible explosion consequences. The rubber compound has to be designed to handle NATURAL GAS and the cover must be perforated exactly like the LP Gas hoses.
 - STEAM: The potential danger of the steam handling is due to the great heat and pressure involved. Water changes into steam when pressure increases. If steam leaks out, big quantities of heat are released and this, combined with high pressure, is a danger for the operator. Use only hose recommended for steam service.

GENERAL CARE FOR HOSES

General instructions are also described for the proper hose storage to minimize deterioration from exposure to elements or environments which are known to be deleterious for rubber products. Proper storage conditions can enhance and extend

substantially the life of hose products. Hose should not be subjected to any form of abuse in service. It should be handled with reasonable care. Hose should not be dragged on sharp or abrasive surface unless specifically designed for such use. Care should be taken to protect hose from heavy loads for which the hose or hose assembly were not designed. Hose should be used at or below its rated working pressure: any change in pressure should be made gradually so as not to subject the hose to excessive surge pressures. Hose should not be kinked or run over by equipment.

SAFETY, CARE MAINTENANCE AND STORAGE OF HYDRAULIC HOSES

(Reprinted from RMA Hose Handbook IP-2 Sixth edition 1996)

Hose has a limited life and the user must be alert to signs of impending failure, particularly when the conditions of service include high working pressures and/or the conveyance of hazardous materials. The periodic inspection and testing procedures described here, provide a schedule of specific measures which constitute a minimum level of user action to detect signs indicating hose deterioration or loss of performance before conditions leading to malfunction or failure are reached.

GENERAL TEST AND INSPECTION PROCEDURES FOR HOSES

- An inspection and hydrostatic test should be made at periodic intervals to determine if a hose is suitable for continued service. A visual inspection of the hose, should be made for loose covers, kinks, bulges or soft spots, which might indicate failures in the structure. The periodic inspection should include an hydrostatic test for one minute at 150% of the recommended hose working pressure. During the test, the hose has to be straight, not coiled or in kinked position. Water is the usual test medium and after the test hose can be flushed with alcohol to remove traces of moisture. A regular schedule for testing should be followed and inspection records maintained.
- Never use air or other compressible gas for the test because of the explosive action of the hose should a failure occur. Such a failure might result a possible damage to property and serious body injury.
 - Air should be removed from the hose by bleeding it through an outlet valve while the hose, is being filled.
 - Hose to be pressure tested must be restrained by placing proper steel containers in order to keep the

- hose from “whipping” if a failure occurs. The hose has to be free to move under test.
- The hose outlet has to be cupped in order to prevent any fitting blown-out.
 - Provision must be made to protect testing personnel if failure occurs.
 - Testing personnel must never stand in front or in back of the ends of a hose being pressure tested.
 - When liquid such as gasoline, oil, solvent, or other hazardous fluids are used as test fluid, precautions must be taken to protect against fire or other damage should a hose fail and the test liquid sprayed over the surrounding area.

STORAGE

Rubber hose products in storage can be affected adversely by excessive temperature, humidity, ozone, sunlight, oils, solvents, corrosive liquids and smokes, insects, rodents and radioactive materials. The appropriate method for storing hose, depends to a great extent on its size, the quantity to be stored, and the way in which it is packaged. Hose should not be piled or stacked to such an extent that the weight can cause serious damage to the lengths stored in the bottom. Hose having a very thin wall will not support as much hose as could a hose having a heavy wire reinforcement. Hose which is shipped in coils should be stored in order that coils are in a horizontal plane. Whenever feasible, rubber hose products, should be stored in their original shipping containers, especially when such containers are wooden spools or cardboard cartons which provide some protections against effects of oils, solvents and corrosive liquids; shipping containers are also afford some protection against ozone and sunlight. The ideal temperature for the storage of rubber products ranges from 10- 21°C (50-70°F), with a maximum limit of 40°C (105°F). If stored below 0°C (32°F), some rubber products become stiff and would require warming before being placed in service. Rubber products should not be stored near sources of heat, such as radiators, heaters, etc, nor should they be stored under conditions of high humidity, or high ozone as near electric motors. To avoid the adverse effects of high ozone concentration, rubber hose products should not be stored directly under direct or reflected sunlight - even through windows -. Certain rodents and insects will damage rubber hose products and an adequate protection from them should be provided. Storage areas should be relatively cool and dark, items should also be stored on a first-in, first-out basis, since even under the best conditions, an unusually long shelf life could deteriorate certain rubber products.

RECOMMENDATION FOR PROPER HOSE INSTALLATION AND FITTING CHOICE

Hydraulic hoses may have a change in length from +2% up to -4%, when subjected to normal working conditions. Great care and attention has to be taken when designing hose lay-out as a change in length may occur. Flexibility and minimum bend radius are important factors in hose design and selection if it is known that the hose will be subjected to sharp curvature in normal use. When bent at an angle too sharp, hose may kink or flatten in the cross section. The reinforcement may also be unduly stressed or distorted and the hose life shortened. Adequate flexibility, means the hose should be able to conform the smallest anticipated bend radius without overstress. The minimum bend radius is generally specified for each hose in this catalogue. This is the radius to which the hose can be bent in service without damage or appreciably shortening its life. The radius is measured to the inside of the curvature. Formula to determinate hose length, given hose bend radius and degree of bend required:

$$\frac{A}{360} \times 2 \pi B = L$$

Where:

A = angle of bend

B = given hose bend radius

L = minimum length of hose requested

2 π B = 3,14

Example: to make a 60° bend at a hose’s rated minimum bend radius of 300mm.

$$\frac{60}{361} \times 2x 3,14x300 = 314mm$$

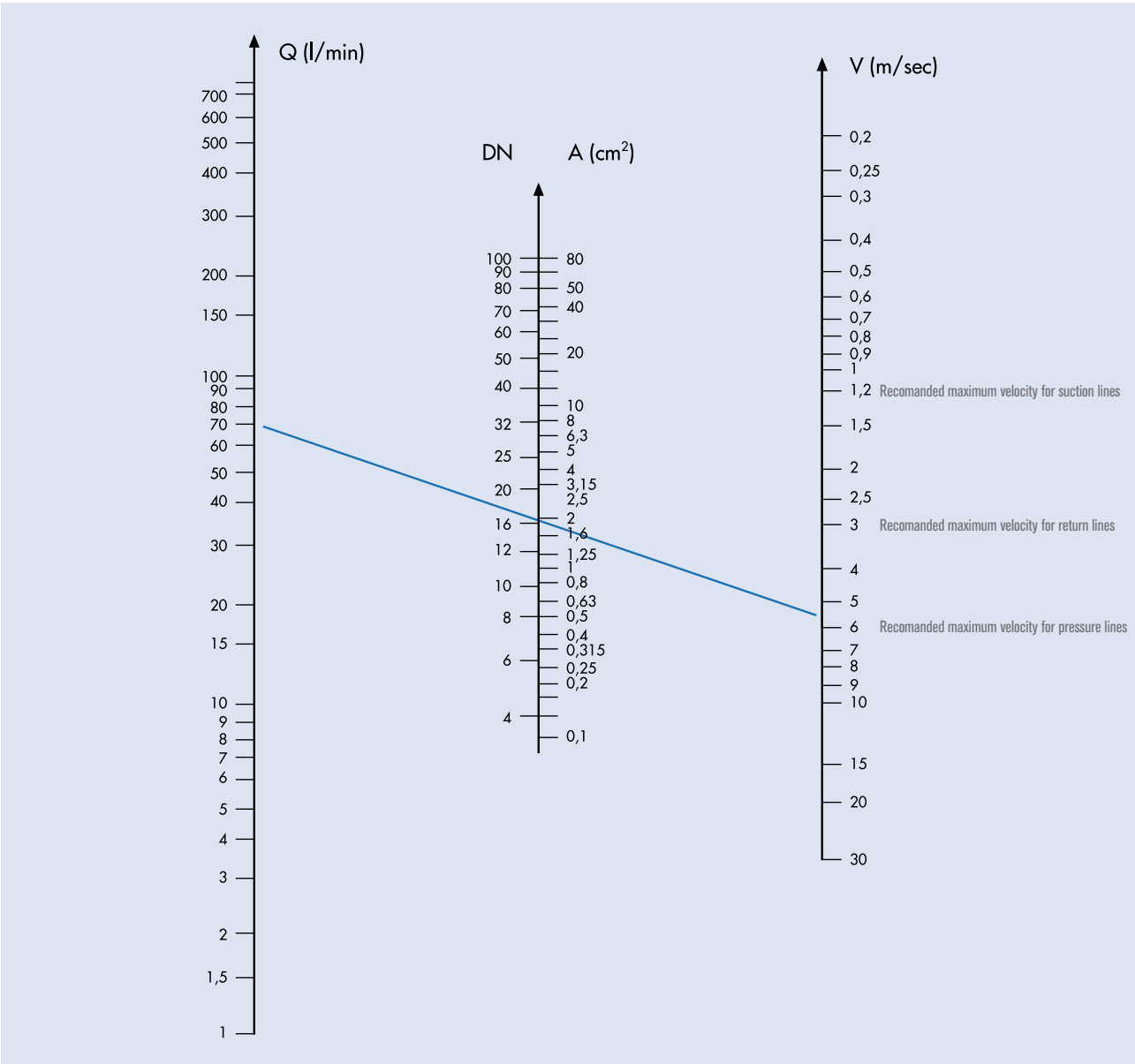
The bend radius used must be equal or bigger than the minimum bend radius. Bending the hose to a smaller bend radius than minimum may kink the hose and result in damage to early failure. Proper design must be completed by using the proper fittings. Improper fittings may cause serious damage or serious personal injuries. Always refer to Manufacturer’s instructions on how to assemble hose with fitting.

NORMOGRAM FOR DETERMINATION OF NOMINAL HOSE DIAMETER

This Normogram provides a guide for the determination of the nominal diameter (DN) required for an hose

Example:
A velocity of V = 8m/s
rate Q = 150 l/min have been selected.

The straight line linking these two values intersects the nominal hose diameter DN 20 on the middle scale



HOSE PRESSURE DROPS TABLE

Pressure drop is expressed in Millibar per 1 meter of hose without fittings.
Fluid specific gravity = 0,85, Viscosity = 20 centistokes ref: MILH-5606 at +21°C (+70°F).

	5	6		8	10		12		16		20		25		32		40		50	60	80		
	4,8	6,4	6,4	8,0	9,5	10,3	12,7	12,7	15,9	15,9	19,0	22,2	25,4	28,6	31,8	35,0	38,1	46,0	50,8	60,3	76,2		
	-4		-5	-6		-8		-10		-12		-16		-20		-24		-32		-40	-48		
1	242	75,4	75,4																				
2	466	146	146	66,1																			
4	996	293	293	133	58,6																		
8	2433	613	613	250	117	85																	
10	3540	880	880	335	144	103	45,4	45,4															
15		1776	1776	660	273	182	68,6	68,6	27,4	27,4													
20		3080	3080	1129	462	308	116	116	41,4	41,4	18,1												
30				2159	887	592	228	228	81,8	81,8	31,8	13,6											
40					1496	1000	379	379	141	141	50,0	26,3	14,0										
50						1414	555	555	192	192	75,0	41,1	21,5	12,1									
60						1938	756	756	263	263	111	55,9	29,6	15,6	9,87								
70							970	970	373	373	154	71,4	37,4	18,3	13,3	8,51							
80							1250	1250	475	475	200	89,5	49,1	28,0	16,8	11,0	6,91						
90							1531	1531	560	560	237	115	66,0	34,1	21,1	13,5	8,50	3,61					
100									653	653	274	137	73,1	40,8	25,1	15,8	10,0	4,25	2,71				
125									964	964	393	196	103	59,2	35,6	22,7	14,5	5,78	3,79				
150											567	273	147	77,4	49,8	31,8	19,4	8,57	5,44				
175											735	349	186	106	60,4	41,0	26,5	11,0	7,12	3,06			
200											920	431	228	136	83,3	51,4	33,3	13,8	8,63	3,79			
250												642	347	198	124	78,5	49,9	20,8	13,2	6,01			
300													864	475	272	162	105	68,2	27,4	17,3	7,77	2,52	
400														832	483	303	177	118	47,7	32,4	13,9	4,54	
500															1159	690	425	250	164	66,0	43,3	19,4	6,38
600																562	339	222	88,6	57,4	25,8	8,49	
700																733	461	301	120	78,2	34,6	11,2	
800																924	584	383	151	98,4	43,4	13,8	
900																1144	706	468	182	118	53,2	16,2	
1000																	841	553	219	140	67,5	19,6	

ENGINEERING DATA

Temperature conversion table

-459,4 bis/to 0			-459,4 bis/to 0						100 bis/to 1000					
°C	°F / °C	°F	°C	°F / °C	°F	°C	°F / °C	°F	°C	°F / °C	°F	°C	°F / °C	°F
-273	-459,4		-17,8	0	32,0	10,0	50	122,0	38	100	212	260	500	932
-268	-450		-17,2	1	33,8	10,6	51	123,8	43	110	230	266	510	950
-262	-440		-16,7	2	35,6	11,1	52	125,6	49	120	248	271	520	968
-257	-430		-16,1	3	37,4	11,7	53	127,4	54	130	266	277	520	986
-251	-420		-15,6	4	39,2	12,2	54	129,2	60	140	284	282	540	1004
-246	-410		-15,0	5	41,0	12,8	55	131,0	66	150	302	288	550	1022
-240	-400		-14,4	6	42,8	13,3	56	132,8	71	160	320	293	560	1040
-234	-390		-13,9	7	44,6	13,9	57	134,6	77	170	338	299	570	1058
-229	-380		-13,3	8	46,4	14,4	58	136,4	82	180	356	304	580	1076
-223	-370		-12,8	9	48,2	15,0	59	138,2	88	190	374	310	590	1094
-218	-360		-12,2	10	50,0	15,6	60	140,0	93	200	392	316	600	1112
-212	-350		-11,7	11	51,8	16,1	61	141,8	99	210	410	321	610	1130
-207	-340		-11,1	12	53,6	16,7	62	143,6	100	212	413,6	327	620	1148
-201	-330		-10,6	13	55,4	17,2	63	145,4	104	220	428	332	630	1166
-196	-320		-10,0	14	57,2	17,8	64	147,2	110	230	446	338	640	1184
-190	-310		- 9,4	15	59,0	18,3	65	149,0	116	240	464	343	650	1202
-184	-300		- 8,9	16	60,8	18,9	66	150,8	121	250	482	349	660	1220
-179	-290		- 8,3	17	62,6	19,4	67	152,6	127	260	500	354	670	1238
-173	-280		- 7,8	18	64,6	20,0	68	154,4	132	270	518	360	680	1255
-169	-273	-459,4	- 7,2	19	66,2	20,6	69	156,2	138	280	536	366	690	1274
-168	-270	-454	- 6,7	20	68,0	21,1	70	158,0	143	290	554	371	700	1292
-162	-260	-436	- 6,1	21	69,8	21,7	71	159,8	149	300	572	377	710	1310
-157	-250	-418	- 5,6	22	71,6	22,2	72	161,6	154	310	590	382	720	1328
-151	-240	-400	- 5,0	23	73,4	22,8	73	163,4	160	320	608	388	730	1346
-146	-230	-382	- 4,4	24	75,2	23,3	74	165,2	166	330	626	393	740	1364
-140	-220	-364	- 3,9	25	77,0	23,9	75	167,0	171	340	644	399	750	1382
-134	-210	-346	- 3,3	26	78,8	24,4	76	168,8	177	350	662	404	760	1400
-129	-200	-328	- 2,8	27	80,6	25,0	77	170,6	182	360	680	410	770	1418
-123	-190	-310	- 2,2	28	82,4	25,6	78	172,4	188	370	698	416	780	1436
-118	-180	-292	- 1,7	29	84,2	26,1	79	174,2	193	380	716	421	790	1454
-112	-170	-274	- 1,1	30	86,0	26,7	80	176,0	199	390	734	427	800	1472
-107	-160	-256	- 0,6	31	87,8	27,2	81	177,8	204	400	752	432	810	1490
-101	-150	-238	0,0	32	89,6	27,8	82	179,6	210	410	770	438	820	1508
- 96	-140	-220	0,6	33	91,4	28,3	83	181,4	216	420	788	443	830	1526
- 90	-130	-202	1,1	34	93,2	28,9	84	183,2	221	430	806	449	840	1544
- 84	-120	-184	1,7	35	95,0	29,4	85	185,0	227	440	824	454	850	1562
- 79	-110	-166	2,2	36	96,8	30,0	86	186,8	232	450	842	460	860	1580
- 73	-100	-148	2,8	37	98,6	30,6	87	188,6	238	460	860	466	870	1598
- 68	- 90	-130	3,3	38	100,4	31,1	88	190,4	243	470	878	471	880	1616
- 62	- 80	-112	3,9	39	102,2	31,7	89	192,2	249	480	896	477	890	1634
- 57	- 70	- 94	4,4	40	104,0	32,2	90	194,0	254	490	914	482	900	1652
- 51	- 60	- 76	5,0	41	105,8	32,8	91	195,8				488	910	1670
- 46	- 50	- 58	5,6	42	107,6	33,3	92	197,6				493	920	1688
- 40	- 40	- 40	6,1	43	109,4	33,9	93	199,4				499	930	1706
- 34	- 30	- 22	6,7	44	111,2	34,4	94	201,2				504	940	1724
- 29	- 20	- 4	7,2	45	113,0	35,0	95	203,0				510	950	1742
- 23	- 10	14	7,8	46	114,8	35,6	96	204,8				516	960	1760
- 17,8	0	32	8,3	47	116,6	36,1	97	206,6				521	970	1778
			8,9	48	118,4	36,7	98	208,4				527	980	1795
			9,4	49	120,2	37,2	99	210,2				532	990	1814
						37,8	100	212,0				538	1000	1832

CONVERT FACTORS

TO CONVERT	INTO	MULTIPLY BY	TO CONVERT	INTO	MULTIPLY BY	
ATMOSPHERES	cms of mercury	76.0	CUBIC FEET	cubic cms	2.832 x 10 ⁴	
atmospheres	ft. of water (at 4°C)	33.90		cu ft	cu inches	1728
atmospheres	in of mercury (at 0°C)	29.92		cu ft	cu meters	0.02832
atmospheres	kgs/sq cm	1.0333		cu ft	cu yds	0.03704
atmospheres	kgs/sq meter	10.332		cu ft	gals	7.48052
atmospheres	pound/sq in	14.70		cu ft	liters	28.32
				cu ft	pints (liq)	59.84
				cu ft	quarts (liq)	29.92
BAR	newtons/sq m	10 ⁵	CU FT/MIN	cu cms/sec	472.0	
bar	atmospheres	0.9869		cu ft/min	gals/sec	0.1247
bar	at (tech.)	1.0197		cu ft/min	liters/sec	0.4720
bar	psi	14.504				
BARREL-OIL	gals/oil	42	cu ft/min	lbs water/min	62.43	
			cu ft/min	gals/min	448.831	
BT UNITS	kg-calories	0.2520	CU INCHES	cc	16.39	
BTUs	ft-lbs	777.9		cu ins	cu ft	5.787 x 10 ⁻⁴
BTUs	hp-hrs	3.927 x 10 ⁻⁴		cu ins	cu meters	1.639 x 10 ⁻⁵
BTUs	kgs-meters	107.5		cu ins	cu yds	2.143 x 10 ⁻⁵
BTUs	kw-hrs	2.928 x 10 ⁻⁴		cu ins	gals	4.329 x 10 ⁻³
				cu ins	liters	1.639 x 10 ⁻²
BTU/MIN	ft-lb/sec	12.96	cu ins	pints (liq)	0.03463	
BTU/min	hp	0.02356	cu ins	quarts (liq)	0.01732	
BTU/min	kw	0.01757				
BTU/min	watts	17.57	CU METERS	cc	10 ⁴	
CENTIMETERS	inches	0.3937	cu M	cu ft	35.31	
	cm	meters	cu M	cu ins	61,023	
	cm	mm	cu M	cu yds	1.308	
			cu M	gals	264.2	
CMS MERCURY	atm	0.01316	cu M	liters	10 ³	
cms mercury	ft water	0.4461	cu M	pints (liq)	2113	
cms mercury	kgs/sq meter	136.0	cu M	quarts (liq)	1057	
cms mercury	lbs/sq ft	27.85	CU YARDS	cu cms	7.646 x 10 ⁵	
cms mercury	lbs/sq in	0.1934		cu yds	cu ft	27
CMS/SECOND	ft/min	1.969	cu yds	cu ins	46,656	
	cms/sec	ft/sec	cu yds	cu meters	0.7646	
cms/sec	km/hr	0.036	cu yds	gals	202.0	
cms/sec	meter/min	0.6	DECIMETERS			
cms/sec	miles/hr	0.02237		meters	0.1	
cms/sec	miles/min	3.728 x 10 ⁻⁴				
CMS/SEC/SEC	ft/sec/sec	0.03281	DEGREES (ANGLE)	minutes	60	
			deg (angle)	radians	0.01745	
			deg (angle)	secs	3600	
CUBIC CMS	cu ft	3.531 x 10 ⁻⁵				
cu cms	cu in	6.102 x 10 ⁻²				
cu cms	cu meters	10 ⁶				
cu cms	cu yds	1.308 x 10 ⁻⁶				
cu cms	gals	2.642 x 10 ⁻⁴				
cu cms	liters	10 ⁻³				
cu cms	pints (liq)	2.113 x 10 ⁻³				
cu cms	quarts (liq)	1.057 x 10 ⁻³				

CONVERT FACTORS

TO CONVERT	INTO	MULTIPLY BY	TO CONVERT	INTO	MULTIPLY BY
DEGREES/SEC	radians/sec	0.01745	HORSE-POWER	BTUs/min	42.44
degs/sec	revs/min	0.1667	hp	ft-lbs/min	33,000
degs/sec	revs/sec	0.002778	hp	ft-lbs/sec	550
FEET	cms	30.48	hp	hp (metric)	1.014
ft	ins	12	hp	kg-calories/min	10.70
ft	meters	0.3048	hp	kws	0.7457
ft	yds	1/3	hp	watts	745.7
FT OF WATER	atms	0.02950	HP-HOURS	BTUs	2547
ft of w	ins mercury	0.8826	hp-hrs	ft-lbs	1.98 x 10 ⁶
ft of w	kgs/sq cm	0.03048	hp-hrs	kg-calories	641.7
ft of w	lbs/sq ft	62.32	hp-hrs	kg-meters	2.737 x 10 ⁵
ft of w	lbs/sq in	0.4328	hp-hrs	kw-hrs	0.7457
FEET/MIN	cm/sec	0.5080	INCHES	cms	2.540
ft/min	ft/sec	0.01667	INS MERCURY	atms	0.002458
ft/min	kms/hr	0.01829	ins mercury	ft water	1.133
ft/min	meters/min	0.3048	ins mercury	kgs/sq cm	0.03453
ft/min	miles/hr	0.01136	ins mercury	lbs/sq ft	70.73
FT/SEC/SEC	cms/sec/sec	30.48	ins mercury	lbs/sq in	0.4912
ft/sec/sec	meters/sec/sec	0.3048	INS OF WATER	atms	0.002458
FT-POUNDS	BTUs	1.286 x 10 ⁻³	ins of w	ins mercury	0.07355
ft lbs	hp-hrs	5.050 x 10 ⁻⁷	ins of w	kgs/sq cm	0.002540
ft lbs	kg-calories	3.241 x 10 ⁻⁴	ins of w	lbs/sq ft	5.202
ft lbs	kg-meters	0.1383	ins of w	lbs/sq in	0.03613
ft lbs	kw-hrs	3.766 x 10 ⁻⁷	KILOGRAMS	dynes	980,665
FT-LBS/MIN	BTUs/min	7.717 x 10 ⁻²	kgs	lbs	2.205
ft-lbs/min	ft-lbs/sec	0.01667	kgs	tons (short)	1.102 x 10 ⁻³
ft-lbs/min	hp	3.030 x 10 ⁻⁵	kgs	grams	1000
ft-lbs/min	kg-calories/min	3.241 x 10 ⁻³	KGS/SQ CM	atms	0.9678
ft-lbs/min	kws	2.260 x 10 ⁻⁵	kgs/sq cm	ft water	32.81
FT-LBS/SEC	BTUs/min	7.717 x 10 ⁻²	kgs/sq cm	ins mercury	28.96
ft-lbs/sec	hp	1.818 x 10 ⁻³	kgs/sq cm	lbs/sq ft	2048
ft-lbs/sec	kg-calories/min	1.945 x 10 ⁻²	kgs/sq cm	lbs/sq in	14.22
ft-lbs/sec	kws	1.356 x 10 ⁻³	KILOMETERS	cms	10 ⁵
GALLONS	ccs	3785	kms	ft	3281
gals	cu ft	0.1337	kms	meters	10 ³
gals	cu ins	231	kms	miles	0.6214
gals	cu meters	3.785 x 10 ⁻³	KMS/HR	cms/sec	27.78
gals	liters	3.785	kms/hr	ft/min	54.68
gals	pints (liq)	8	kms/hr	ft/sec	0.9113
gals	quarts (liq)	4	kms/hr	meters/min	16.67
			kms/hr	miles/hr	0.6214
GALLONS, IMP	US gals	1.20095	KMS/HR/SEC	cms/sec/sec	27.78
gallons, US	imp gals	0.183267	kms/hr/sec	ft/sec/sec	0.9113
			kms/hr/sec	meters/sec/sec	0.2778
GALLONS/MIN	cu ft/sec	2.228 x 10 ⁻³			
gal/min	liters/sec	0.06308			
gal/min	cu ft/hr	8.0208			

CONVERT FACTORS

TO CONVERT	INTO	MULTIPLY BY	TO CONVERT	INTO	MULTIPLY BY
KILOWATTS	BTUs/min	56.92	NEWTON	kgs	0.1020
kws	ft-lbs/min	4.425 x 10 ⁴	OUNCES	lbs	1.805
kws	ft-lbs/sec	737.6	ozs	gram	28.349527
kws	hp	1.341	OUNCES (FLUID)	cu in	1.805
kws	kg-calories/min	14.34	ozs (fluid)	liters	0.02957
kws	watts	10 ³	POUNDS	ozs	16
KILOWATT-HRS	BTUs	3415	lbs	tons (short)	0.005
kw-hrs	ft-lbs	2.655 x 10 ⁶	lbs	newtons (N)	4.44
kw-hrs	hp-hours	1.341	lbs	gram	453.5924
kw-hrs	kg-calories	860.5			
kw-hrs	kg-meters	3.671 x 10 ⁵	LBS OF WATER	cu ft	0.01605
LITERS	ccs	103	lbs of water	cu in	27.73
liters	cu ft	0.03531	lbs of water	gals	0.1204
liters	cu ins	61.02	LBS OF WATER/MIN	cu ft/sec	2.679 x 10 ⁻⁴
liters	cu meters	10 ⁻²	POUNDS/CU FT	lbs/cu in	5.787 x 10 ⁻⁴
liters	gals	0.2642	POUNDS/CU IN	lbs/cu ft	1728
liters	quarts (liq)	1.057	POUNDS/SQ IN	atms	0.06804
LITERS/MIN	gals/sec	4.403 x 10 ⁻³	lbs/sq in	ft water	2.311
METERS	cms	100	lbs/sq in	in mercury	2.036
meters	ft	3.281	lbs/sq in	kgs/sq cm	0.07031
meters	ins	39.37	RADIANS	degrees	57.29578
meters	kms	10 ³	TONS (LONG)	kgs	1016
meters	mms	10 ³	tons (long)	lbs	2240
meters/min	cms/sec	1.667	tons (long)	tons (short)	1.12000
meters/min	ft/min	3.281	TONS (SHORT)	kgs	2000
meters/min	ft/sec	0.05468	tons (short)	kps	907.18486
meters/min	kms/hr	0.06	tons (short)	tons (long)	0.89287
meters/min	miles/hr	0.03728	tons (short)	tons (metric)	0.90718
METERS/SEC	ft/min	196.8	WATTS	BTUs/min	0.05692
meters/sec	ft/sec	3.281	watts	ft-lbs/min	44.26
meters/sec	kms/hr	3.6	watts	ft-lbs/sec	0.7376
meters/sec	kms/min	0.06	watts	hp	1.341 x 10 ⁻³
meters/sec	miles/hr	2.237	watts	kg-calories/min	0.01434
meters/sec	miles/min	0.03728	watts	kws	10
MICRON	meters	10 ⁻⁶	WATTS/HOURS	BTUs	3.415
microns	in	39 x 10 ⁻⁶	watts/hrs	ft-lbs	2655
MILES/HR	cms/sec	44.70	watts/hrs	hp-hrs	1.341 x 10 ⁻³
miles/hr	ft/min	88	watts/hrs	kg-calories	0.8605
miles/hr	ft/sec	1.467	watts/hrs	kg-meters	367.1
miles/hr	kms/hr	1.609	watts/hrs	kw-hrs	10 ⁻³
miles/hr	meters/min	26.82			
MILLIMETERS	cms	0.1			
mms	ins	0.0397			
MINUTES (ANGLE)	radians	2.909 x 10 ⁻⁴			

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FLUID		SPIRAL HOSES	BRAIDED HOSES	HIGH TEMPERATURE HOSE	LOW TEMPERATURE HOSES	CLEANERS HOSES
Acetone	3	3	3	3	3	3
Agip Arnica 46	1	2	2	2	2	-
Agip Arnica Extra Plus	2	2	2	2	2	-
Agip Arnica Plus	1	1	2	2	2	-
Agip Arnica S46	1	1	2	2	2	-
Agip OSO 32	1	1	2	2	2	-
Agip SINT 2000	2	2	2	2	2	-
Agip Tec sint SL5W40	1	2	3	3	3	-
Air (100°C)	3	2	3	1	3	-
Air (150°C)	NC	NC	NC	2	NC	-
Air (60°C)	2	2	2	1	2	-
Ammonia, gaseous	3	2	3	3	3	3
Ammonium Hydroxide, 10%	2	2	2	2	2	2
Ammonium nitrate (aqueous solutions)	2	2	2	2	2	2
Ammonium sulphate (aqueous solution)	1	1	1	2	1	1
Aniline	NC	3	NC	NC	NC	NC
API HS 46	1	2	2	2	2	-
Aqua regia	3	3	3	3	3	3
ARAL Vitam EHF 46	1	1	2	2	2	-
ASTM oil n°1, 100°C	1	1	1	2	1	1
ASTM oil n°2, 100°C	1	2	1	2	1	1
ASTM oil n°3, 100°C	1	2	1	2	1	1
Atlas Copco Roto H	2	2	3	3	3	-
Atlas Copco Roto Inject Fluid Plus	2	2	3	3	3	-
Atlas Copco Roto Inject Fluid	1	2	2	2	2	-
Avia Biofluid BP 32	2	3	2	2	2	-
Avia HVI 46	2	2	2	2	2	-
Avia Syntofluid F 46	1	2	1	2	1	-
Avia Syntofluid N 32	2	2	1	2	1	-
Avia Syntofluid N 46	1	1	2	2	2	-
Avia Syntofluid PE B 30	1	2	2	2	2	-
Avia Syntofluid PE B 50	1	1	2	2	2	-
Benzene	NC	NC	NC	NC	NC	NC
Boric acid 10% 100°C	2	2	2	2	2	2
BP A 0629L/028	2	3	2	2	2	-
BP Biohyd SE-S 46	2	2	1	1	1	-
BP Vanellus C 5	1	2	2	2	2	-
Butanol	1	2	1	1	1	1
Calcium bicarbonate	1	2	1	2	1	1
Calcium hydroxide	1	2	1	2	1	1
Carbonic anhydride	2	2	2	2	2	2
Castrol Aero HF 585 B	1	3	2	2	2	-
Castrol Anvol SWX 68	1	3	1	1	1	-
Castrol Biobar VG 68	1	3	1	1	1	-
Castrol Biotech Alpin 22	1	1	1	1	1	-
Castrol Carelube HTG	1	3	1	2	1	-
Castrol Carelube HY 46	2	2	2	2	2	-
Castrol Hyspin HDH 7000	1	2	2	2	2	-
Castrol Lift oil	2	2	2	2	2	-
Castrol L 571	1	2	2	2	2	-
Castrol Transynd RD	2	2	3	3	3	-

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CEPSA Hydraulico HM 46	1	1	2	2	2	-
Chevron Hydraulic AW 46	1	2	2	2	2	-
Chevron Rycon MV	1	2	2	2	2	-
Citric Acid, 33%	2	2	2	2	2	2
Crude oil	1	NC	1	1	1	1
Dibenzyl ether	NC	NC	NC	NC	NC	NC
Exxon Hydraulikoel HE 46	1	1	1	1	1	-
Exxon Nuto H46	2	2	2	2	2	-
Ethyl acetate	3	NC	3	3	3	3
Ethyl alcohol	1	1	1	1	1	1
Ethylene glycole	1	1	1	1	1	1
Ethylene glycole	1	1	1	1	1	1
Ethylene glycole (100°C)	1	2	1	1	1	1
Exxon HUMBLE H 46	1	2	2	2	2	-
Exxon MOBIL 424	2	2	2	2	2	-
Exxon Univis N46	1	2	2	2	2	-
Formaldehyde	3	2	3	3	3	3
Fuchs Eco Hyd 46S NWG	2	3	2	2	2	-
Fuchs Planto Hytrac	2	3	2	2	2	-
Fuchs Planto hyd N 46	2	3	1	2	1	-
Fuchs Planto hyd S 46	1	3	1	2	1	-
Fuchs PLANTOHYD SUPER S46	2	NC	1	2	1	-
Fuchs Plantosyn 3268 Eco	2	3	1	2	1	-
Fuchs Plantosyn 46 HVI	1	3	2	2	2	-
Fuchs Renolin MR 520	2	2	2	2	2	-
Glycerine	1	1	1	1	1	1
Gulf Armony AW 46	1	1	2	2	2	-
Heptane	2	3	2	2	2	2
Houghton Cosmolubric HF 130	2	2	2	2	2	-
Idemitsu daphne 46	2	2	2	2	2	-
Igol Matic ZNS 46	1	2	2	2	2	-
Igol Ticma Fluid BIO 46	2	2	2	2	2	-
Igol Ticma Fluid BIO 46	2	2	2	2	2	-
Ingersoll Rand SSR Ultracoolant	2	2	2	2	2	-
Ingersoll Rand Techtrol	2	3	2	2	2	-
IP HYDRUS 46	1	1	1	1	1	-
IP Transmission Fluid DX	1	1	1	1	1	-
IRVING hydraulic 46	2	2	2	2	2	-
Isobutyl alcohol	2	2	2	2	2	2
Iso-octane	2	3	2	2	2	2
Isopropyl alcohol	2	1	2	2	2	2
John Deere Bio Guard II	1	1	1	1	1	-
Kluber HYSYN FG46	2	2	3	3	3	-
Kluber KluberBIO LR 9 68	1	3	2	2	2	-
Kluber Summit Hysyn FG 46	2	2	3	3	3	-
Komatsu Genuine Bio 46 G4	1	2	2	2	2	-
Lead free petrol	2	3	2	2	2	2
Liebherr Hydraulic Plus	2	2	3	3	3	-
Liebherr Hydraulic Plus Arctic	1	1	2	2	2	-
Magnesium hydroxide (solutions)	2	1	2	2	2	2
Methanol	2	1	2	2	2	2

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Methyl methacrylate	NC	NC	NC	NC	NC	NC
Millers Millfood 32	2	2	2	2	2	-
Mobil Aero HF 46	1	2	2	2	2	-
Mobil Arctic EAL 22	1	1	2	2	2	-
Mobil DTE 10 Excel 46	2	1	2	2	2	-
Mobil DTE 13	1	2	2	2	2	-
Mobil DTE 25	1	2	2	2	2	-
Mobil DTE 26	2	2	2	2	2	-
Mobil DTE EXCEL 46	1	1	2	2	2	-
MOBIL EAL 224 H	2	2	1	1	1	-
Mobil Hydrofluid HFDU	1	1	1	1	1	-
Mobil Jet oil II	1	3	2	2	2	-
Mobil SHC 524	1	2	3	3	3	-
Mobil Therm 605	2	2	2	2	2	-
Neste BIO Hydraulı LONGLIFE 46	2	3	2	2	2	-
Neste BIO Hydraulı SE 46	2	3	2	2	2	-
Neste HYDRAULI 32 SUPER	1	2	2	2	2	-
Neste HYDRAULI 46 SUPER	1	2	2	2	2	-
Nitrogen	1	1	1	1	1	1
Oleic acid	2	3	2	2	2	2
Omv HLP AL 46	1	2	3	3	3	-
Panolin EP Gear Synth 30 VDT	2	NC	2	2	2	-
Panolin GRO Synth 46	2	3	2	2	2	-
Panolin HLP Synth 15	2	NC	NC	NC	NC	-
Panolin HLP Synth 46	1	3	2	2	2	-
Panolin HLP Synth E 46	1	3	2	2	2	-
Panolin Trafosynth 2	2	NC	2	2	2	-
Paraffin	1	1	1	1	1	1
Pentane	2	3	2	2	2	2
PENTOSIN CHF 11 S (Power Steering)	1	2	2	2	2	-
Petrol	2	3	1	1	1	1
Phenol	NC	NC	NC	NC	NC	NC
Phosphoric acid 20%	2	1	2	2	2	2
Potassium chloride (solution)	1	1	1	1	1	1
Potassium sulphate (solution)	1	1	1	1	1	1
Q8 Handel 68	2	2	2	2	2	-
Q8 Heller 46	1	2	2	2	2	-
Q8 Hogarth 46	2	2	3	3	3	-
Q8 Holbein	1	2	2	2	2	-
Q8 T720 (engine oil 15w40)	1	2	2	2	2	-
Quaker Greensave N 40	2	2	2	2	2	-
Rautio Ergo MIX	1	2	2	2	2	-
Sea water	1	2	1	1	1	1
Shell AeroShell Fluid 31	1	2	1	1	1	-
Shell AeroShell Fluid 41	1		2	2	2	-
Shell AeroShell Fluid 602	1	1	2	2	2	-
Shell ATF III D	2	3	3	3	3	-
Shell Corena D	2	2	3	3	3	-
Shell Donax TD	1	2	2	2	2	-
Shell Helix Ultra	2	2	2	2	2	-
Shell Irus Fluid DU-NA 68	1	1	1	1	1	-

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Shell Naturelle HF-E15	1	3	2	2	2	-
Shell Naturelle HF-E46	1	3	2	2	2	-
Shell Rimula R3	1	2	2	2	2	-
Shell Rimula X30	1	2	2	2	2	-
Shell Tegula V32	1	2	2	2	2	-
Shell Tellus Arctic 32	2	2	2	2	2	-
Shell Tellus S2 M 100	1	2	2	2	2	-
Shell Tellus S2 M 46	1	2	2	2	2	-
Shell Tellus S2 M 68	1	2	2	2	2	-
Shell Tellus S2 V 32	1	2	2	2	2	-
Shell Tellus S2 V 46	1	2	2	2	2	-
Shell Tellus S2 V 68	1	2	2	2	2	-
Shell Tellus S46	1	2	2	2	2	-
Shell Tellus S4ME 46	1	3	-	-	-	-
Shell Tellus TX 68	2	3	2	2	2	-
Shell V oil 1404	2	2	2	2	2	-
Soaps	1	2	1	1	1	1
Soda caustic	3	2	3	3	3	3
Sodium bicarbonate	1	1	1	1	1	1
Sodium chloride (solution)	1	1	1	1	1	1
Sodium silicate (solutions)	1	1	1	1	1	1
Sodium sulphide	1	1	1	1	1	1
Solutia Skydroll 500	NC	NC	NC	NC	NC	-
Stearic acid	1	1	1	1	1	1
Tamoil Green Hydro Safety 46	1	1	2	2	2	-
Tannic acid	2	2	2	2	2	2
Tannin	1	1	1	1	1	1
Tartaric acid 20%	1	2	1	1	1	1
Teboil Hydraulic arctic	2	2	1	1	1	-
Teboil Eco 46	1	1	2	2	2	-
Terresolve Greenscare 46	2	2	2	2	2	-
Tetraethyl lead	2	3	2	2	2	2
Texaco Biostar Hydraulic 32	1	3	1	1	1	-
Texaco Hydra 46	1	3	2	2	2	-
Texaco Rando HD 46	1	2	3	3	3	-
Toluene	NC	NC	NC	NC	NC	NC
Total Biohydran SE 46	2	3	2	2	2	-
Total Dacnis SH 46	-	2	2	2	2	-
Total Dacnis VS 46	2	2	2	2	2	-
Ukabiol HY 46 HTG	2	2	1	2	1	-
Unil HYDRO S46	2	2	2	2	2	-
Unil OPAL HV 46	2	2	2	2	2	-
Unil OPAL HVB 46	2	2	2	2	2	-
Urea	1	1	1	1	1	1
Valvoline Ultramax HVLP 68	2	1	2	2	2	-
Vikers Ecosure HSE 68	2	3	2	2	2	-
Vinyl acetate	3	3	3	3	3	3
Vinyl chloride	NC	NC	NC	NC	NC	NC
Water	1	1	1	1	1	1
Zinc chloride (solutions)	1	1	1	1	1	1
Zinc sulphate (solutions)	1	1	1	1	1	1



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