

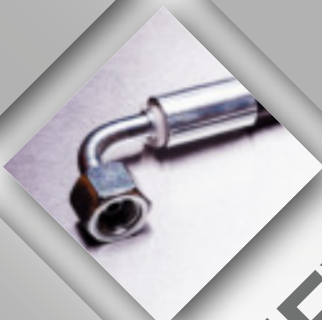
QUALITY

INTELLIGENT DESIGN
EXCELLENCE
PARTNERSHIP

SKIVE AND NO
FITTING SOLUTION
INTEGRATED SOLUTIONS
REDUCED INVENTORY

NEXT GENERATION
SHIELDMASTER

 **manuli**[®]
HYDRAULICS





Next Generation **SHIELDMASTER™**

Next Generation ShieldMaster - Outstanding Abrasion Resistance, Flexibility and Low Friction For Minimal Wear

As the demands made of hydraulic systems continue to increase so our ShieldMaster range of hoses continues to evolve. Famed for their high abrasion resistance new generation ShieldMaster offers even greater protection in harsh environments whilst still ensuring almost wear-free movement for hoses held in bundles.

Hose flexibility has also been greatly improved in the new ShieldMaster range with up to 48% reduction in minimum bend radius achieved*, making for far easier installation. Use in maintenance operations has also been simplified with the introduction of no-skive fitting solutions for this new Shieldmaster range.

*ShieldMaster/35 (WP350 bar DN 19) MBR = 120 mm, ShieldMaster/5000 (WP 345 bar DN 19) MBR=230mm.



ShieldMaster hoses offer the following benefits:

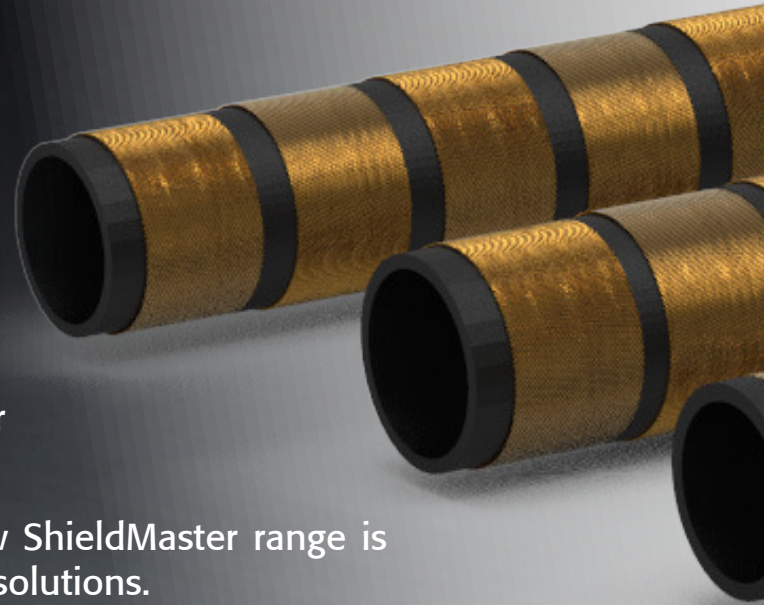
- Outstanding abrasion resistance for longer service life
- Skive and no-skive fitting solutions
- Low friction covers for minimal contact wear when used in bundles
- High flexibility with low minimum bend radius for difficult installations
- Extremely robust and durable, with high fatigue resistance
- Flame retardant, with MSHA approval
- Electrical antistatic cover properties, with FRAS approval in progress
- Isobaric design for ease of product selection
- Fully compatible with Manuli fittings and assembly machines as part of our integrated approach to fluid connector solutions

Even More Robust for the Most Severe Environments.

With an even more resilient cover compound, improved flexibility and simplified hose selection, the new ShieldMaster range improves upon the old ShieldMaster range in almost every way.

The new ShieldMaster hoses take all the best qualities from the various old ShieldMaster families and merge them into a simpler range comprising just four families, each of which is MSHA approved.

Also, one of the major benefits of the new ShieldMaster range is that it boasts a full range of no-skive fitting solutions.



No-Skive Fitting Solution Availability for New ShieldMaster Hoses

Large Sizes

- SpiralFit Insert
- M05400 (No-Skive Ferrule)
- M05500 (No-Skive Ferrule 6WS)

Small / Medium Sizes

- OPF (One-Piece Solution)
- OPK (One-Piece Solution)
- MultiFit Insert
- M03300 (No-Skive Ferrule)
- M03400 (No-Skive Ferrule)
- M03500 (No-Skive Ferrule)

STANDARD 2 **ALTERNATIVE 1**

So, the new ShieldMaster range is fully capable of replacing its predecessor in all situations, making it the hose of choice where extreme abrasion resistance is required.



ShieldMaster Cover

The ShieldMaster Cover is designed for maximum abrasion and weathering resistance in none friction-flexing and non-impact applications

Comprising a robust synthetic rubber layer with an additional ultra-high molecular weight polyethylene (UHMW PE) outer skin, the ShieldMaster Cover outperforms all other Manuli cover types in its resistance to both abrasion and ozone.

In fact the abrasion resistance of the ShieldMaster Cover is so great that under standard ISO 6945 test conditions it is necessary to perform around 1 million cycles to register a discernible weight loss.

The self-lubricating properties of UHMW PE make the ShieldMaster Cover perfect for situations where bunches of hoses rub against each other, and the smooth cover finish provides an easy-to-clean alternative to spring guards.










In addition to its outstanding abrasion and weathering resistance, the ShieldMaster Cover also resists cracking down to -46°C and has flame retardant and anti-static properties, making it suitable for use in even the harshest environments.



SHIELDMASTER/21

OUTSTANDING WEAR RESISTANCE



TECHNICAL DATA																	
																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01154006*	6	-4	1/4"	10,2	0,40	12,2	0,48	210	3040	840	12180	50	1,97	188	0,13	MF+M00120-04	OPF-04
H01154008*	8	-5	5/16"	11,5	0,45	13,6	0,54	210	3040	840	12180	55	2,17	212	0,14	MF+M00120-05	OPF-05
H01154010*	10	-6	3/8"	14,4	0,57	16,0	0,63	210	3040	840	12180	65	2,56	306	0,21	MF+M00120-06	OPF-06
H01154012*	12	-8	1/2"	18,1	0,71	20,1	0,79	210	3040	840	12180	90	3,54	444	0,30	MF+M00120-08	OPK-08
H01154016*	16	-10	5/8"	22,2	0,87	24,2	0,95	210	3040	840	12180	100	3,94	624	0,42	MF+M00120-10	OPF-10
H01154019*	19	-12	3/4"	25.6	1.01	27.7	1.09	210	3040	840	12180	120	4.72	771	0.52	MF+M00120-12	OPF-12
H01154025*	25	-16	1"	33.0	1.30	34.8	1.37	210	3040	840	12180	150	5.91	1.193	0.80	MF+M00130-16	OPF-16

KEY FEATURES

- Outstanding abrasion and ozone resistance
- Compact and light structure
- Very low bend radius makes this product suitable for difficult installations
- Easy assembling and mounting operations (no protection sleeves required)
- Isobaric pressure rating
- Suitable for very cold environments

APPLICATIONS & FLUIDS

- Low, medium pressure hydraulic lines
- High resistance to abrasion conditions, including rubbing amongst hoses in bunches, alternative to spring guards, ease of cleaning in dusty environments
- For severe environmental conditions, long resistance to ozone and weathering, cold temperatures, dirty industrial environments
- Skive and no-skive fitting solutions
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F

100 °C, 212 °F

TUBE

Oil resistant synthetic rubber

REINFORCEMENT

One high tensile wire braid (DN 6 to 12), two high tensile wire braids (DN 16 to 25)

COVER

SHIELD

Composite bi-layer structure with outstanding abrasion and ozone resistance

APPLICABLE SPECS

ISO 18752-B

TYPE APPROVALS

MSHA, FRAS (requested); CU-TR

REMARKS












- Applications with material projections or winding on low bend radius pulley systems should be field tested before use; high abrasion resistant rubber cover hoses are appropriate in most cases

SHIELDMASTER/28

OUTSTANDING WEAR RESISTANCE



TECHNICAL DATA																	
																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01155006*	6	-4	1/4"	11.6	0.46	13.6	0.54	280	4,060	1,120	16,240	50	1.97	272	0.18	MF+M00120-04	OPF-04
H01155008*	8	-5	5/16"	12.9	0.51	14.9	0.59	280	4,060	1,120	16,240	55	2.17	299	0.20	MF+M00120-05	OPF-05
H01155010*	10	-6	3/8"	15.4	0.61	17.4	0.69	280	4,060	1,120	16,240	63	2.48	397	0.27	MF+M00120-06	OPF-06
H01155012*	12	-8	1/2"	18.5	0.73	20.5	0.81	280	4,060	1,120	16,240	80	3.15	507	0.34	MF+M00120-08	OPK-08
H01155016*	16	-10	5/8"	22.7	0.89	24.7	0.97	280	4,060	1,120	16,240	90	3.54	731	0.49	MF+M00120-10	OPK-10
H01155019*	19	-12	3/4"	27.1	1.07	29.3	1.15	280	4,060	1,120	16,240	120	4.72	1,058	0.71	MF+M00120-12	OPK-12
H01155025*	25	-16	1"	34.1	1.34	36.5	1.44	280	4,060	1,120	16,240	150	5.91	1,536	1.03	MF+M00930-16	OPK-16
H01155031*	31	-20	1.1/4"	41.7	1.64	44.5	1.75	280	4,060	1,120	16,240	210	8.27	2,171	1.46	MF+M00920-20	OPK-20

KEY FEATURES

- Outstanding abrasion and ozone resistance
- Compact and light structure
- Very low bend radius makes this product suitable for difficult installations
- Easy assembling and mounting operations (no protection sleeves required)
- Isobaric pressure rating
- Suitable for very cold environments

APPLICATIONS & FLUIDS

- Medium and high pressure hydraulic lines
- High resistance to abrasion conditions, including rubbing amongst hoses in bunches, alternative to spring guards, ease of cleaning in dusty environments
- For severe environmental conditions, long resistance to ozone and weathering, cold temperatures, dirty industrial environments
- Skive and no-skive fitting solutions
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F

100 °C, 212 °F

TUBE

Oil resistant synthetic rubber

REINFORCEMENT

Two high tensile steel braids (DN 6-19); Four high tensile steel spirals (DN 25-31)

COVER

SHIELD

Composite bi-layer structure with outstanding abrasion and ozone resistance

APPLICABLE SPECS

ISO 18752-B

TYPE APPROVALS

MSHA, FRAS (requested); CU-TR

REMARKS












- Applications with material projections or winding on low bend radius pulley systems should be field tested before use; high abrasion resistant rubber cover hoses are appropriate in most cases

SHIELDMASTER/35

OUTSTANDING WEAR RESISTANCE



TECHNICAL DATA																	
																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10119006*	6	-4	1/4"	11.3	0.44	13.1	0.52	350	5,070	1,400	20,300	45	1.77	288	0.19	MF+M00120-04	OPF-04
H10119008*	8	-5	5/16"	12.9	0.51	14.9	0.59	350	5,070	1,400	20,300	55	2.17	330	0.22	MF+M00120-05	OPF-05
H10119010*	10	-6	3/8"	15.0	0.59	16.8	0.66	350	5,070	1,400	20,300	65	2.56	393	0.26	MF+M00120-06	OPF-06
H10119012*	12	-8	1/2"	18.6	0.73	20.4	0.80	350	5,070	1,400	20,300	80	3.15	556	0.37	MF+M00120-08	OPK-08
H10119016*	16	-10	5/8"	23.5	0.93	25.9	1.02	350	5,070	1,400	20,300	100	3.94	964	0.65	MF+M00910-10	OPK-10
H10119019*	19	-12	3/4"	27.5	1.08	29.9	1.18	350	5,070	1,400	20,300	120	4.72	1,229	0.83	IP+M01500-12	SP+M05400-12
H10119025*	25	-16	1"	34.6	1.36	37.0	1.46	350	5,070	1,400	20,300	150	5.91	1,795	1.21	IP+M01500-16	SP+M05400-16
H10119031*	31	-20	1.1/4"	42.1	1.66	44.9	1.77	350	5,070	1,400	20,300	230	9.06	2,369	1.59	IP+M01500-20	SP+M05400-20
H10119038*	38	-24	1.1/2"	51.2	2.02	56.1	2.21	350	5,070	1,400	20,300	300	11.81	4,214	2.83	IP+M01600-24	SP+M05500-24
H10119051*	51	-32	2"	66.8	2.62	70.4	2.77	350	5,070	1,400	20,300	360	14.17	6,205	4.17	IP+M01800-32	SP+M05500-32

KEY FEATURES

- Outstanding abrasion and ozone resistance
- Compact and light structure
- Very low bend radius makes this product suitable for difficult installations
- Easy assembling and mounting operations (no protection sleeves required)
- Isobaric pressure rating
- Suitable for very cold environments

APPLICATIONS & FLUIDS

- High pressure hydraulic lines
- High resistance to abrasion conditions, including rubbing amongst hoses in bunches, alternative to spring guards, ease of cleaning in dusty environments
- For severe environmental conditions, long resistance to ozone and weathering, cold temperatures, dirty industrial environments
- Skive and no-skive fitting solutions
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F
100 °C, 212 °F

TUBE

Oil resistant synthetic rubber

REINFORCEMENT

Two high tensile steel braids (DN 6-12); Four high tensile steel spirals (DN 16-31); Six high tensile steel spirals (DN 38-51)

COVER

SHIELD
Composite bi-layer structure with outstanding abrasion and ozone resistance

APPLICABLE SPECS

ISO 18752-B

TYPE APPROVALS

MSHA, FRAS (requested); CU-TR

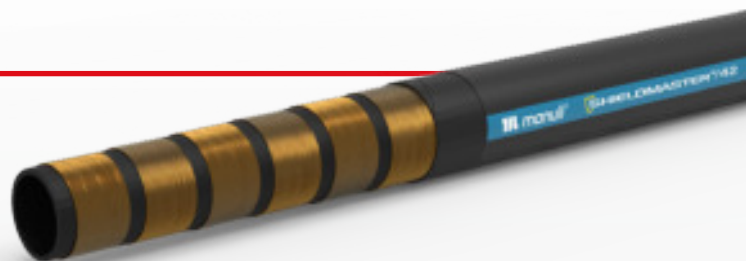
REMARKS












- Applications with material projections or winding on low bend radius pulley systems should be field tested before use; high abrasion resistant rubber cover hoses are appropriate in most cases

SHIELDMASTER/42

OUTSTANDING WEAR RESISTANCE



TECHNICAL DATA																	
																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10120006*	6	-4	1/4"	11,3	0,44	13,3	0,52	420	6090	1680	24360	45	1,77	294	0,20	MF+M00120-04	OPF-04
H10120010*	10	-6	3/8"	17,6	0,69	20,0	0,79	420	6090	1680	24360	100	3,94	699	0,47	MF+M00910-08	OPK-08
H10120012*	12	-8	1/2"	20,3	0,80	22,7	0,89	420	6090	1680	24360	120	4,72	808	0,54	MF+M00910-08	OPK-08
H10120019*	19	-12	3/4"	27,7	1,09	30,2	1,19	420	6090	1680	24360	150	5,91	1,307	0,88	IP+M01500-12	SP+M05400-12
H10120025*	25	-16	1"	35,0	1,38	37,5	1,48	420	6090	1680	24360	210	8,27	2,031	1,36	IP+M01500-16	SP+M05400-16
H10120031*	31	-20	1.1/4"	44,7	1,76	49,5	1,95	420	6090	1680	24360	260	10,24	3,701	2,49	IP+M01600-20	SP+M05500-20
H10120038*	38	-24	1.1/2"	53.2	2.09	56.4	2.22	420	6090	1680	24360	310	12.20	4,498	3.01	IP+M01600-24	SPGX+M05500-24GX
H10120051*	51	-32	2"	68.9	2.71	72.4	2.85	420	6090	1680	24360	500	19.69	7,388	4.96	IS+M02700-32	

KEY FEATURES

- Outstanding abrasion and ozone resistance
- Compact and light structure
- Very low bend radius makes this product suitable for difficult installations
- Easy assembling and mounting operations (no protection sleeves required)
- Isobaric pressure rating
- Suitable for very cold environments

APPLICATIONS & FLUIDS

- High pressure hydraulic lines
- Heavy duty power lines
- High resistance to abrasion conditions, including rubbing amongst hoses in bunches, alternative to spring guards, ease of cleaning in dusty environments
- For severe environmental conditions, long resistance to ozone and weathering, cold temperatures, dirty industrial environments
- Skive and no-skive fitting solutions
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F

100 °C, 212 °F

TUBE

Oil resistant synthetic rubber

REINFORCEMENT

Two high tensile steel braids (DN 6); Four high tensile steel spirals (DN 10-25); Six high tensile steel spirals (DN 31-51)

COVER

SHIELD

Composite bi-layer structure with outstanding abrasion and ozone resistance

APPLICABLE SPECS

ISO 18752-B

TYPE APPROVALS

MSHA, FRAS (requested); CU-TR

REMARKS



- Applications with material projections or winding on low bend radius pulley systems should be field tested before use; high abrasion resistant rubber cover hoses are appropriate in most cases



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