

GAIA™ Chlorine FREE

- **100% Recyclable Hydraulic Hose**
- **100% Chlorine-Free**

GAIA - THE FIRST 100% RECYCLABLE HYDRAULIC HOSE!

Recycling and re-purposing of hydraulic hoses has always been a challenge.

GAIA hoses have been specifically designed to meet the ever-increasing performance demands of high-pressure hydraulics, whilst maintaining a focus on end-of-life disposal.

Environmental and Sustainability Credentials

- Rubber compounds do not contain chlorine, making them fully recyclable
- Reduction in end-of-life disposal / recycling costs
- Contributes towards an improved Environmental, Social & Governance (ESG) performance
- Manufacturing process is more environmentally friendly
- Compliant with OEM manufacturers' Green Policies



THE MANULI EARTH-FIRST PROJECT

Earth-First is a global sustainability initiative throughout the entire Manuli Hydraulics organisation.

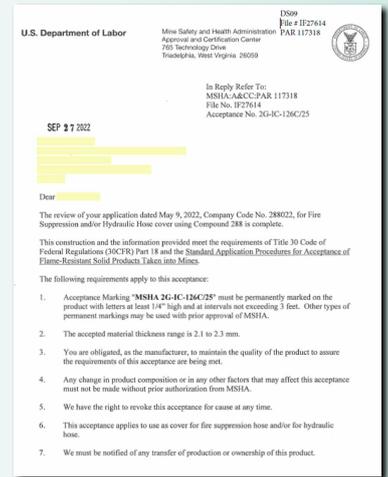
We focus on the development of environmentally-conscious products, utilising sustainable raw materials and greener manufacturing processes. In this way we are leading the hydraulic connectors industry towards a more sustainable future.

When you see the Manuli Earth-First badge on a product, you can be sure that it has been developed to be as sustainable and environmentally-sound as possible, without compromising on performance and quality.



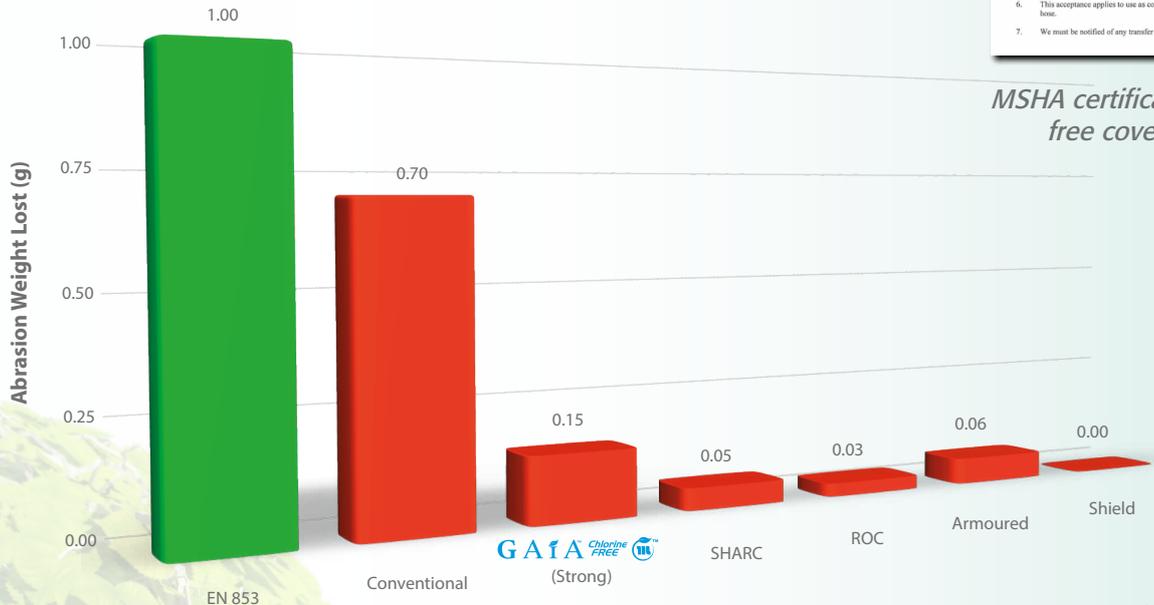
Additional Features

- High impulse resistance - 500,000 cycles (ISO 18752 Type C)
- Excellent flexibility and ultra-low minimum bend radius
- Chlorine-free cover has the same abrasion, ozone, aging and fire resistance properties as the Manuli "STRONG" cover
- Skive and no-skive fully integrated fitting solutions available



MSHA certification of Chlorine-free cover compound

Weight loss after 2,000 cycles (EN 853 abrasion test)



Fully Integrated Fitting Solutions

GAIA hoses are designed to work seamlessly with a wide range of both skive and no-skive Manuli fittings, making them ideal for OEM and workshop assembly, as well as for on-site assembly in maintenance situations.

Multifit & Interlock Plus Skive Solutions

Multifit is a universal fitting solution and is the core of the Manuli Hydraulics integrated approach.

Interlock Plus is a highly robust, double-skive fitting solution.

One-Piece & Spiralfit No-Skive Solutions

Manuli also offers no-skive fitting solutions, including one-piece fittings and Spiralfit two-piece fittings.



GAIA/28

CHLORINE-FREE LINE



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
H10146010*	10	- 6	3/8"	15.4	0.6	17.0	0.66	280	4060	1120	16244	63.0	2.48	396	0.27	MF + M00120-06	OPF-06
H10146012*	12	- 8	1/2"	18.5	0.72	20.3	0.79	280	4060	1120	16244	80.0	3.14	515	0.35	MF + M00120-08	OPF-08
H10146016*	16	- 10	5/8"	22.7	0.89	24.7	0.97	280	4060	1120	16244	90.0	3.54	754	0.51	MF + M00120-10	OPF-10
H10146019*	19	- 12	3/4"	26.9	1.05	29.3	1.15	280	4060	1120	16244	120.0	4.72	1077	0.72	MF + M00930-12	OPK-12
H10146025*	25	- 16	1"	34.1	1.34	36.5	1.43	280	4060	1120	16244	150.0	5.9	1565	1.05	MF + M00930-16	OPK-16

KEY FEATURES

- Bend radius which exceed the standard requirements by - 30% to -50%
- Good flexibility in the whole temperature range
- Easy mounting in any installation
- High impulse resistance according to ISO 18752 requirements
- Weight saving of 20% vs traditional hose construction
- No-skive fitting solution is available
- Isobaric pressure rating for easy selection and product management

APPLICATIONS & FLUIDS

- Chlorine free requirements
- High pressure power lines for general hydraulics
- Applications with installation constraints (short assemblies, compact spaces, low bend radii, etc.)
- 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

121 °C, 250 °F

TUBE

Oil resistant synthetic rubber

REINFORCEMENT

Two high tensile steel wire braids (DN 10, 12, 16), Multiple high tensile steel wire spirals (DN 19, 25)

COVER

Special cover compound designed to be chlorine-free with high abrasion and ozone resistance

APPLICABLE SPECS

ISO 18752-C/D (WB structures are Grade C, WS structures are Grade D with STD1 only); JIS K6349

TYPE APPROVALS

MSHA

GAIA/35

CHLORINE-FREE LINE



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
H10144012*	12	- 8	1/2"	18.6	0.73	20.4	0.8	350	5070	1400	20305	80.0	3.14	576	0.39	MF + M00120-08	OPF-08
H10144016*	16	- 10	5/8"	23.5	0.92	25.7	1.01	350	5070	1400	20305	100.0	3.93	966	0.65	MF + M00910-10	OPK-10
H10144019*	19	- 12	3/4"	27.5	1.08	29.9	1.17	350	5070	1400	20305	120.0	4.72	1252	0.84	IP + M01500-12	SP + M05400-12
H10144025*	25	- 16	1"	34.6	1.36	37.0	1.45	350	5070	1400	20305	150.0	5.9	1823	1.22	IP + M01500-16	SP + M05400-16
H10144031*	31	- 20	1.1/4"	42.1	1.65	44.9	1.76	350	5070	1400	20305	230.0	9.05	2435	1.64	IP + M01500-20	SP + M05400-20

KEY FEATURES

- Bend radius which exceed the standard requirements by - 30% to -50%
- Good flexibility in the whole temperature range
- Easy mounting in any installation
- High impulse resistance according to ISO 18752 requirements
- Weight saving of 20% vs traditional hose construction
- No-skive fitting solution is available
- Isobaric pressure rating for easy selection and product management

APPLICATIONS & FLUIDS

- Chlorine free requirements
- High pressure power lines for general hydraulics
- Applications with installation constraints (short assemblies, compact spaces, low bend radii, etc.)
- 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

121 °C, 250 °F

TUBE

Oil resistant synthetic rubber

REINFORCEMENT

Two high tensile steel wire braids (DN 12), Multiple high tensile steel wire spirals (DN 16 to 31)

COVER

Special cover compound designed to be chlorine-free with high abrasion and ozone resistance

APPLICABLE SPECS

ISO 18752-C/D (WB structures are Grade C, WS structures are Grade D with STD1 only); JIS K6349, DN 19 and larger sizes meet and exceed EN 856-R13 & ISO 3862-R13 performance

TYPE APPROVALS

MSHA

GAIA/42

CHLORINE-FREE LINE



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
H10145012*	12	- 8	1/2"	20.3	0.79	22.7	0.89	420	6,090	1,680	24,366	120.0	4.72	782	0.53	MF + M00910-08	MF + M03500-08
H10145016*	16	- 10	5/8"	23.9	0.94	26.4	1.03	420	6,090	1,680	24,366	140.0	5.51	964	0.65	IP + M01500-10	SP + M05400-10
H10145019*	19	- 12	3/4"	27.7	1.09	30.2	1.18	420	6,090	1,680	24,366	150.0	5.9	1,270	0.85	IP + M01500-12	SP + M05400-12
H10145025*	25	- 16	1"	35.0	1.37	37.5	1.47	420	6,090	1,680	24,366	210.0	8.26	1,983	1.33	IP + M01500-16	SP + M05400-16
H10145031*	31	- 20	1.1/4"	46.3	1.82	49.5	1.94	420	6,090	1,680	24,366	260.0	10.23	3,608	2.42	IP + M01600-20	SP + M05500-20

KEY FEATURES

- Bend radius which exceed the standard requirements by - 30% to -50%
- Good flexibility in the whole temperature range
- Easy mounting in any installation
- High impulse resistance according to ISO 18752 requirements
- Weight saving of 20% vs traditional R13 hose construction
- No-skive fitting solution is available
- Isobaric pressure rating for easy selection and product management

APPLICATIONS & FLUIDS

- Chlorine free requirements
- High pressure power lines for general hydraulics
- Applications with installation constraints (short assemblies, compact spaces, low bend radii, etc.)
- 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

121 °C, 250 °F

TUBE

Oil resistant synthetic rubber

REINFORCEMENT

Multiple high-tensile steel wire spirals

COVER

Special cover compound designed to be chlorine-free with high abrasion and ozone resistance

APPLICABLE SPECS

ISO 18752-C (Grade C "Plus" approved 1 million impulse cycles with STD1 fittings), DN 19 and larger sizes meet and exceed ISO 3862-R15 performance; JIS K6349

TYPE APPROVALS

MSHA



www.manuli-hydraulics.com/hp-hydraulics



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