



Seaguard LWB^{VG}

Cables for submarines and underwater applications
to VG 95218-29

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All data within this publication indicates nominal values in millimetres (mm) unless otherwise stated.
DISCLAIMER: Information is indicative and cannot be considered a binding representation or warranty for products and their use. Valid at the time of publication, it is subject to change without notice.



Pressure resistant and Longitudinally Water Blocked (LWB) cables

Habia Cable manufactures and supplies a wide variety of naval and land forces cables, approved to many of the toughest military specifications in the world.

As a part of our Underwater Cables and Systems offer, Seaguard LWB^{VG} is a cable range intended for use as submarine outboard cables, fully qualified to the VG 95218-29. These cables are pressure resistant and partially water-blocked for use up to 61 bars as defined by the shipyards.

Certificate approval

Covering a variety of types and sizes, our approval comprises:

- VG 95218-29 Type G = Transversal and partially longitudinal watertight, insulated single wire, screened, for fixed installation and the use of drag-chains.
- VG 95218-29 Type H = Transversal and partially longitudinal watertight cable, overall screened, for fixed installation and the use of drag-chains.
- VG 95218-29 Type K = Transversal and partially longitudinal watertight cable, overall screened, with individually screened pairs, for fixed installation and the use of drag-chains.
- VG 95218-29 Type L = Transversal and partially longitudinal watertight cable, overall screened, galvanically separated, individually screened pairs, for fixed installation and the use of drag-chains.

Performance

T029G cable types are rated for an operating voltage of: 600V AC / 900V DC.

T029H, T029K and T029L cable types are rated for an operating voltage of: 500V AC / 500V DC.

All cables have an operational temperature range from -50°C to +90°C.

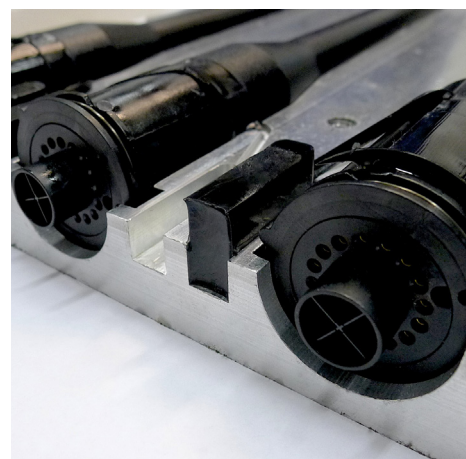
Compatibility

The cables are fully compatible with different connector technologies, with cables designed to very precise outer diameter tolerances enabling a perfect match between the cable interface and the connector. Furthermore, VG 95218-29 designs are fully compatible with most moulding techniques.

Cable routing is helped with low bend radii of 5x OD for fixed applications and 10x OD for areas where the cable will be routinely flexed.

Cables are designed to comply with some of the toughest electrical screening requirements.


Habia Cable is happy to provide guidance for your application.



Seaguard LWB^{VG} // H-GM29-G

TPS155XL insulated, HFS100 sheathed, shielded, water-blocked cores to VG 95218-29 Type G
Intended for use as transversal and partially longitudinal watertight cables

600V AC / 900V DC -50°C to +90°C

Description	Arrangement	Cores		Inner Components		Finished Cable			Article Number	
VG95218T029G	No. of cores	Conductor		Insulation	Shield/s	Sheath	Shield/s	Sheath/s	Weight	
		Size	VG95218T020G		N/A	N/A	TPC braid	HFS 100		
			TPC	TPS155 XL						
		mm²	Nom Ø	Nom Ø	Nom Ø	Nom Ø	Nom Ø	Max Ø	Max g/m	
H-GM29-G001	1	35	8.4	10.6	-	-	11.6	17.2	580	305-52907-010
H-GM29-G002		120	16.0	19.6	-	-	20.9	29.0	1,750	305-52907-020
H-GM29-G003		185	20.0	24.2	-	-	25.5	32.2	2,500	305-52907-030
H-GM29-G004		240	23.0	27.6	-	-	29.1	35.7	3,050	305-52907-040

Identification

Colours		
Part	Colour	Notes / Printing
Core	Black	
Outer sheath	Black	C6126 - Habia Cable - VG95218T029G### - #x#mm² - VDE-REG.-Nr. 8879 - Batchcode

Characteristics & key properties

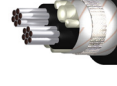
	RoHS 2011/65/EU	REACH EC No. 1907/2006	LVD 2014/35/EU	VG 95218-29 Type G approval
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Seaguard LWB^{VG} // H-GM29-H

ETFE insulated, HFS100 sheathed, shielded, water-blocked multicores to VG 95218-29 Type H
Intended for use as transversal and partially longitudinal watertight cables

500V AC / 500V DC

-50°C to +90°C

Description	Arrangement	Cores			Inner Components		Finished Cable			Article Number
VG95218T029H	No. of cores	Conductor		Insulation	Shield/s	Sheath	Shield/s	Sheath/s	Weight	
		Size	VG95218T020A		N/A	N/A	TPC braid	HFS 100		
			TPC	ETFE						
		mm²	Max Ø	Nom Ø	Nom Ø	Nom Ø	Nom Ø	Max Ø	Max g/m	
H-GM29-H016	2	0.75	1.20	1.50	-	-	4.0	8.0	80	305-52908-160
H-GM29-H001		1.5	1.68	2.03	-	-	5.0	10.7	150	305-52908-010
H-GM29-H017		6	3.80	5.15	-	-	11.4	17.1	390	305-52908-170
H-GM29-H021	3	0.75	1.20	1.50	-	-	4.3	8.2	90	305-52908-210
H-GM29-H002		1.5	1.68	2.03	-	-	5.3	11.0	160	305-52908-020
H-GM29-H003		1.5	1.68	2.03	-	-	5.3	11.0	160	305-52908-030
H-GM29-H004	4	0.50	0.94	1.27	-	-	4.3	9.5	110	305-52908-040
H-GM29-H015		0.50	0.94	1.27	-	-	4.3	6.2	60	305-52908-150
H-GM29-H005		1.0	1.32	1.70	-	-	5.0	10.3	175	305-52908-050
H-GM29-H022		6	3.80	5.15	-	-	13.5	19.0	560	305-52908-220
H-GM29-H018	5	1.5	1.68	2.03	-	-	6.9	11.8	200	305-52908-180
H-GM29-H019		1.5	1.68	2.03	-	-	6.9	11.8	200	305-52908-190
H-GM29-H006	2	1.0	1.32	1.70	-	-	13.5	19.0	580	305-52908-060
	4	6	3.80	5.15	-	-				
H-GM29-H007	7	1.5	1.68	2.03	-	-	7.3	13.5	260	305-52908-070
H-GM29-H008	4x2	0.75	1.20	1.50	-	-	8.5	15.0	275	305-52908-080
H-GM29-H009	12	1.5	1.68	2.03	-	-	9.9	16.4	420	305-52908-090
H-GM29-H010	8x2	0.75	1.20	1.50	-	-	12.6	17.2	360	305-52908-100
H-GM29-H014	19	6	3.80	5.15	-	-	27.6	33.2	2,040	305-52908-140
H-GM29-H020	10x2	0.75	1.20	1.50	-	-	15.0	22.2	560	305-52908-200
H-GM29-H011	24	1.5	1.68	2.03	-	-	14.2	21.1	835	305-52908-110
H-GM29-H023	14x2	0.75	1.20	1.50	-	-	15.5	24.6	840	305-52908-230
H-GM29-H012	37	0.75	1.20	1.50	-	-	12.8	18.6	590	305-52908-120
H-GM29-H013	27x2	0.40	0.84	1.19	-	-	17.1	22.3	620	305-52908-130



Identification

Colours		
Part	Colour	Notes / Printing
Cores	Black	Numbered
Outer sheath	Black	C6126 - Habia Cable - VG95218T029H### - #x#mm ² - VDE-REG.-Nr. 8879 - Batchcode

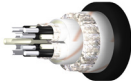
Characteristics & key properties

CE	RoHS 2011/65/EU	REACH EC No. 1907/2006	LVD 2014/35/EU	VG 95218-29 Type H approval
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Seaguard LWB^{VG} // H-GM29-K

ETFE insulated, HFS100 sheathed, shielded, water-blocked multipairs to VG 95218-29 Type K
Intended for use as transversal and partially longitudinal watertight cables

500V AC / 500V DC -50°C to +90°C

Description	Arrangement	Cores			Inner Components		Finished Cable			Article Number
VG95218T029K	No. of cores	Conductor		Insulation	Shield/s	Sheath	Shield/s	Sheath/s	Weight	
		Size	VG95218T020A		TPC braid	N/A	TPC braid	HFS 100		
			TPC	ETFE						
		mm²	Max Ø	Nom Ø	Nom Ø	Nom Ø	Nom Ø	Max Ø	Max g/m	
H-GM29-K001	4x2	0.75	1.20	1.50	4.3	-	11.0	17.5	395	305-52911-010
H-GM29-K005	7x2	0.75	1.20	1.50	4.3	-	13.0	20.1	560	305-52911-050
H-GM29-K002	8x2	0.75	1.20	1.50	4.3	-	16.6	22.7	675	305-52911-020
H-GM29-K003	10x2	0.75	1.20	1.50	4.3	-	18.5	26.6	905	305-52911-030
H-GM29-K006	14x2	0.75	1.20	1.50	4.3	-	20.7	31.0	1,200	305-52911-060
H-GM29-K004	27x2	0.40	0.84	1.19	3.6	-	24.9	34.4	1,500	305-52911-040

Identification

Colours		
Part	Colour	Notes / Printing
Cores	Black	Numbered
Outer sheath	Black	C6126 - Habia Cable - VG95218T029K### - #x#mm² - VDE-REG.-Nr. 8879 - Batchcode

Characteristics & key properties

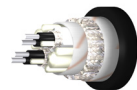
	RoHS 2011/65/EU	REACH EC No. 1907/2006	LVD 2014/35/EU	VG 95218-29 Type K approval
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Seaguard LWB^{VG} // H-GM29-L

ETFE insulated & inner sheath, HFS100 sheathed, shielded, water-blocked multipairs to VG 95218-29 Type L
Intended for use as transversal and partially longitudinal watertight cables

500V AC / 500V DC

-50°C to +90°C

Description	Arrangement	Cores			Inner Components		Finished Cable			Article Number
VG 95218-T-029L	No. of cores	Conductor		Insulation	Shield/s	Sheath	Shield/s	Sheath/s	Weight	
		Size	VG95218T020A		TPC braid	ETFE	TPC braid	HFS 100		
			TPC	ETFE						
		mm²	Max Ø	Nom Ø	Nom Ø	Nom Ø	Nom Ø	Max Ø	Max g/m	
H-GM29-L006	2x2	0.75	1.20	1.50	4.0	5.1	10.8	17.8	340	305-52912-060
H-GM29-L001	4x2	0.75	1.20	1.50	4.1	5.1	13.6	20.8	530	305-52912-010
H-GM29-L002	8x2	0.75	1.20	1.50	4.1	5.1	17.5	23.0	720	305-52912-020
H-GM29-L003	10x2	0.75	1.20	1.50	4.1	5.1	21.5	32.6	1,210	305-52912-030
H-GM29-L005	12x2	0.38	0.84	1.19	3.3	4.3	20.4	30.9	1,220	305-52912-050
H-GM29-L007	14x2	0.75	1.20	1.50	4.1	5.1	23.5	37.0	1,600	305-52912-070
H-GM29-L004	27x2	0.40	0.84	1.19	3.3	4.3	28.1	42.4	1,750	305-52912-040

Identification

Colours		
Part	Colour	Notes / Printing
Cores	Black	Numbered
Inner sheath	White	
Outer sheath	Black	C6126 - Habia Cable - VG95218T029L### - #x#mm ² - VDE-REG.-Nr. 8879 - Batchcode

Characteristics & key properties

	RoHS 2011/65/EU	REACH EC No. 1907/2006	LVD 2014/35/EU	VG 95218-29 Type L approval
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Materials // Insulation and sheath information

Seaguard LWB^{VG} underwater cables are constructed using high-performance insulation and sheath materials.

Conductors

Tin plated copper conductors and braided screens provide good all-round mechanical performance. Stronger than bare copper and without the cost of silver or nickel plating, tin plated cores are easy to solder whilst our stranding ensures both good flex-life and flexibility.

Insulation

T029G cable types use Habia's TPS155XL insulation; this is a flexible, yet abrasion resistant, high temperature material with good chemical and fire resistance properties. T029H, T029K and T029L cable types use thin wall ETFE insulation to ensure the most robust combination of electrical and mechanical properties possible on small size wires.

Beddings & fillings

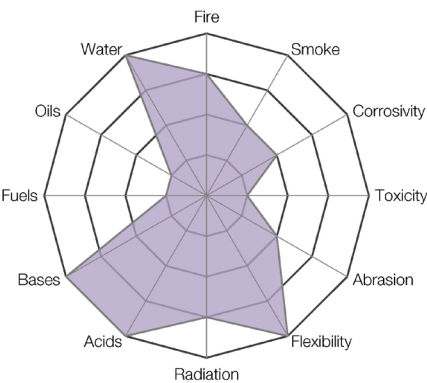
All Seaguard LWB^{VG} cable types use a combination of water-swelling tapes and fillers (as required by the cable construction), along with bedding layers to prevent the movement of water along the length of the cable under transversal or longitudinal pressure.

Sheaths

All cable types use Habia's widely successful HFS100 sheathing material. HFS100 has excellent moulding properties along with good flame retardancy, excellent water resistance and an overall mechanically tough and flexible sheath.

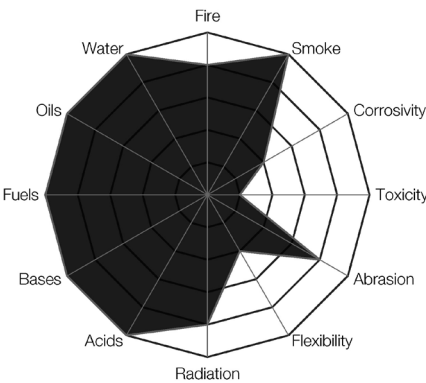
TPS 155 XL

Used as insulation for VG 95218-29 Type G



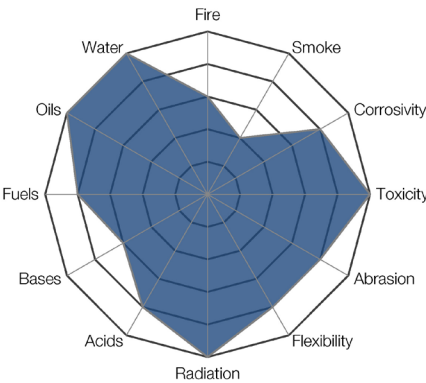
ETFE

Used as insulation for:
- VG 95218-29 Type H
- VG 95218-29 Type K
- VG 95218-29 Type L
Used as inner sheath for:
- VG 95218-29 Type L



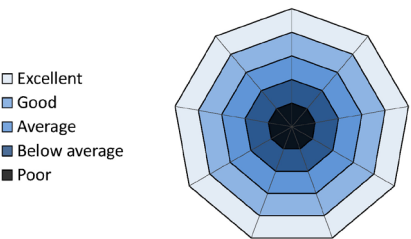
HFS 100

Used as outer sheath for:
- VG 95218-29 Type G
- VG 95218-29 Type H
- VG 95218-29 Type K
- VG 95218-29 Type L



Spider graphs

Our material performance can be compared via these simple key-property graphs. More detailed information can be provided on request.



Important

This information is offered solely as a convenience to Habia Cable's customers and is intended only as a guide. Data is based on typical values and might vary depending on cable construction and processing method.

Habia Cable has compiled the information contained herein from what it believes to be accurate and factual sources as of the date compiled. Any changes in the data will be made without notification.

Habia Cable is one of Europe's leading wire and cable manufacturers. We develop, manufacture and market custom design cables and harness systems for demanding applications in a number of diverse industries.

The company has a global presence and worldwide sales of custom design and standard products in more than 50 countries.

We aim to provide a high level of customer service and technical competence with competitive lead times and low minimum order quantities.

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