



**HYDROFIRM(T)
S1BB-F and S1BBH2-F
0,6/1 kV**

Round and Flat Cables for Drinking Water
Application
KTW/ACS



Technical Data

	Trademark	HYDROFIRM(T)
	Type designation	S1BB-F (round version); S1BBH2-F (flat version)
	Specification	Design and tests according to Prysmian specification
	Application	<p>For making connections to electrical equipment used in water and subjected to medium mechanical stress, e.g. submersible pumps, lowering of water level and booster plants.</p> <p>The cables can also be used in drinking water, industrial water, cooling water, surface water, rainwater, ground water and sea water (salt water) down to 500m depth.</p> <p>The outer sheath fulfil the requirements of health according to the German KTW-Recommendation and the Attestation de Conformité Sanitaire (ACS) according to the French law. The relevant certificates are available.</p> <p>If the water concerned is aggressive or composed of special substances, the cables resistance properties should be examined.</p> <p>These cables can be used indoors, outdoors, in industrial and agricultural plant, but not in explosion-hazard areas.</p> <p>In other respects, DIN VDE 0298-300 / HD 516 applies.</p>
Electrical parameters	Rated voltage	U ₀ /U = 0.6/1 kV
	Maximum permissible operation voltage of plant and power system	<ul style="list-style-type: none"> - Single-phase and three-phase AC operation Line-Earth/ Line-Line 0.7/1.2 kV - DC operation Line-Earth/ Line-Line 0.9/1.8 kV
	AC test voltage	3 kV (test duration 15 min.)
	Current-carrying capacity	The values are valid for a multicore cable or three single-core cables in trefoil in permanent operation with DC or AC with 50 up to 60 Hz in air at 30 °C. In other respects, DIN VDE 0298-4 applies
Thermal parameters	Maximum permissible operating temperature at conductor	90°C
	Maximum permissible short-circuit temperature at conductor	250°C (max. 5s)
	Minimum permissible temperatures	<ul style="list-style-type: none"> when in motion -25 °C when stationary -40 °C
	Maximum permissible water temperature	60°C (At higher water temperatures, a shortened cable service life is to be expected.) For application in waters up to 80°C, please ask for our special cable HYDROFIRM TGH.
Mechanical parameters	Tensile strength	max. 15 N/mm ² , see selection table
	Minimum bending radii	See selection table
Special parameters	Water resistance	Test according to DIN VDE 0282-16 (HD 22.16)
	Requirements of health	Test according to the German KTW-Recommendation
	Acceptance in France	Test according to the Attestation de Conformité Sanitaire ACS



Design features

Conductor	Copper, plain, finely stranded, Class 5 according to DIN VDE 0295 / HD 383 / IEC 60228
Insulation	Ozone, water and weather resistant insulation compound, base EPR (Etylene-Propylene Rubber)
Core identification	Colour of cores according to DIN VDE 0293-308:2003
Sheath	Round version: One-sheath-system: EPR special compound; according to KTW-Recommendation; colour: blue Flat version: One-sheath-system: EPR special compound; according to KTW and ACS
Marking	HYDROFIRM(T) S1BB-F 4G25 0,6/1 kV KTW ACS

Selection and ordering data

Number of cores and nominal cross-sectional area mm ²	Order-No.	Conductor diameter	Overall diameter of cable	Overall diameter of cable	Minimum bending radii (fixed installation)	Minimum bending radii (free moveable)	Approx. net weight for 1000 m	Tension force	Current-carrying capacity, touching surfaces, at 30°C, 3 cores loaded	Short-circuit current
		guidance value mm	Min. value mm	Max. value mm	mm	mm	kg	Max. value N	A	1 s kA
HYDROFIRM(T) S1BB-F, single-core design										
1 X 1,5	5DH8 502	1,6	5.8	6.6	20	20	53	23	24	0.21
1 X 2,5	5DH8 503	2,0	6.3	7.0	21	21	65	38	31	0.36
1 X 4	5DH8 504	2,4	6.7	7.5	23	23	82	60	43	0.57
1 X 6	5DH8 505	2,9	7.2	8.0	24	32	103	90	55	0.86
1 X 10	5DH8 506	3,9	8.3	9.1	27	36	152	150	77	1.43
1 X 16	5DH8 507	5,0	9.1	10.1	30	40	212	240	103	2.29
1 X 25	5DH8 508	6,3	10.8	12.4	50	62	316	375	137	3.58
1 X 35	5DH8 509	7,5	12.3	13.9	56	70	422	525	169	5.01
1 X 50	5DH8 510	8,8	14.1	15.7	63	79	579	750	211	7.15
1 X 70	5DH8 511	10,6	16.3	18.3	73	92	808	1050	261	10.01
1 X 95	5DH8 512	12,2	18.8	20.3	81	102	1026	1425	314	13.59
1 X 120	5DH8 513	14,2	20.9	22.9	92	115	1317	1800	367	17.16
1 X 150	5DH8 514	16,0	23.2	25.2	101	126	1629	2250	422	21.45
1 X 185	5DH8 515	17,8	26.0	28.3	113	142	1986	2775	481	26.46
1 x 240	5DH8 516	20,3	28.9	31.2	125	156	2553	3600	571	34.32
1 X 300	5DH8 517	23,1	32.1	34.4	138	172	3157	4500	661	42.90
1 X 400	5DH8 518	26,5	36,3	38,6	154	193	4094	6000	762	57,2
1 X 500	5DH8 518	29,8	40.4	42.7	171	214	5168	7500	762	71.50
HYDROFIRM(T) S1BB-F, two-core design, without PE conductor, round										
2 X 1	5DH8 521	1,3	8.0	9.0	27	36	90	30	18	0.14
2 X 1,5	5DH8 522	1,6	8.6	9.6	29	38	106	45	23	0.21
2 X 2,5	5DH8 523	2,0	9.4	10.4	31	42	135	75	30	0.36
2 X 4	5DH8 524	2,4	10.2	11.8	35	47	175	120	41	0.57
2 X 6	5DH8 525	2,9	11.2	12.8	51	64	230	180	53	0.86
2 X 10	5DH8 526	3,9	15.0	17.0	68	85	399	300	74	1.43
2 X 16	5DH8 527	5,0	17.6	19.6	78	98	570	480	99	2.29
2 X 25	5DH8 528	6,3	21.6	23.6	94	118	850	750	131	3.58
HYDROFIRM(T) S1BB-F, three-core design, with PE conductor, round										
3 G 1.5	5DH8 532	1,6	9.1	10.1	30	40	125	67.5	23	0.21
3 G 2.5	5DH8 533	2,0	9.6	11.2	34	45	162	112	30	0.36
3 G 4	5DH8 534	2,4	10.6	12.2	49	61	216	180	41	0.57

Selection and ordering data

Number of cores and nominal cross-sectional area mm ²	Order-No.	Conductor diameter	Overall diameter of cable	Overall diameter of cable	Minimum bending radii (fixed installation)	Minimum bending radii (free moveable)	Approx. net weight for 1000 m	Tension force	Current-carrying capacity, touching surfaces, at 30°C, 3 cores loaded	Short-circuit current
		guidance value mm	Min. value mm	Max. value mm	mm	mm	kg	Max. value N	A	1 s kA

HYDROFIRM(T) S1BB-F, three-core design, without PE conductor, round

3 X 1	5DH8 581	1,3	8.4	9.5	28	38	104	45	18	0.14
3 X 1,5	5DH8 582	1,6	9.1	10.1	30	40	125	67	23	0.21
3 X 2,5	5DH8 583	2,0	9.6	11.2	34	45	162	112	30	0.36
3 X 4	5DH8 584	2,4	10.6	12.2	49	61	216	180	41	0.57
3 X 6	5DH8 585	2,9	12.1	13.7	55	69	292	270	53	0.86
3 X 10	5DH8 586	3,9	16.3	18.3	73	92	514	450	74	1.43
3 X 16	5DH8 587	5,0	19.1	21.1	84	106	740	720	99	2.29
3 X 25	5DH8 588	6,3	23.1	25.1	100	126	1094	1125	131	3.58
3 X 35	5DH8 589	7,5	25.6	28.6	114	143	1459	1575	162	5.01
3 X 50	5DH8 590	8,9	29.9	32.9	132	165	2018	2250	202	7.15
3 X 70	5DH8 591	10,7	35.4	38.4	154	192	2808	3150	250	10.01
3 X 95	5DH8 592	12,3	39.0	42.0	168	210	3547	4275	301	13.59
3 X 120	5DH8 593	14,3	44.4	47.4	190	237	4542	5400	352	17.16
3 X 150	5DH8 594	16,0	49,0	53,0	212	265	5627	6750	404	21.45
3 X 185	5DH8 595	17,7	54,2	58,2	233	291	6819	8325	461	26.46
3 X 240	5DH8 596	20,3	61,4	65,4	262	327	8645	10800	547	34.32
3 X 300	5DH8 597	26,9	68,4	72,9	292	365	11081	13500	633	42,9

HYDROFIRM(T) S1BB-F, four-core design, with PE conductor, round

4 G 1	5DH8 551	1,3	9.1	10.1	30	10	123	60	18	0.14
4 G 1.5	5DH8 552	1,6	9.5	11.1	33	44	148	90	23	0.21
4 G 2.5	5DH8 553	2,0	10.5	12.1	48	61	201	150	30	0.36
4 G 4	5DH8 554	2,4	11.8	13.4	54	67	276	240	41	0.57
4 G 6	5DH8 555	2,9	13.6	15.2	61	76	378	340	53	0.86
4 G 10	5DH8 556	3,9	17.8	19.8	79	99	646	600	74	1.43
4 G 16	5DH8 557	5,0	20.9	22.9	92	115	934	960	99	2.29
4 G 25	5DH8 558	6,3	25.3	28.3	113	142	1418	1500	131	3.58
4 G 35	5DH8 559	7,5	28.3	31.3	125	157	1877	2100	162	5.01
4 G 50	5DH8 560	8,9	33.2	36.2	145	181	2613	3000	202	7.15
4 G 70	5DH8 561	10,7	38.7	41.7	167	209	3638	4200	250	10.01
4 G 95	5DH8 562	12,3	43.7	47.7	191	239	4643	5700	301	13.59
4 G 120	5DH8 563	14,3	48,7	52,7	211	264	5833	7200	352	17.16
4 G 150	5DH8 564	16,0	54,5	58,5	234	193	7222	9000	404	21.45
4 G 185	5DH8 565	17,7	60,6	64,6	258	323	8830	11100	461	26.46
4 G 240	5DH8 566	20,3	68,2	72,2	289	361	11457	14400	547	34.32
4 G 300	5DH8 567	23,1	77,0	81,0	324	405	14368	18000	633	42.90

Selection and ordering data

Number of cores and nominal cross-sectional area mm ²	Order-No.	Conductor diameter	Overall diameter of cable	Overall diameter of cable	Minimum bending radii (fixed installation)	Minimum bending radii (free moveable)	Approx. net weight for 1000 m	Tension force	Current-carrying capacity, touching surfaces, at 30°C, 3 cores loaded	Short-circuit current
		guidance value mm	Min. value mm	Max. value mm	mm	mm	kg	Max. value N	A	1 s kA

HYDROFIRM(T) S1BBH2-F, three-core design, without PE conductor, flat

3 X 1.5	5DH8 602	1,6	5.3x11.3	6.3x12.2	19	19	117	67	23	0.21
3 X 2.5	5DH8 603	2,0	6.0x12.5	7.5x14.0	23	23	161	112	30	0.36
3 X 4	5DH8 604	2,4	7.0x14.5	8.3x16.6	25	33	223	180	41	0.57
3 X 6	5DH8 605	2,9	8.0x17.0	9.5x19.0	29	38	300	270	53	0.86
3 X 10	5DH8 606	3,9	9.0x19.0	10.5x21.5	32	42	461	450	74	1.43
3 X 16	5DH8 607	5,0	12.5x25.0	14.5x28.0	58	73	767	720	99	2.29
3 X 25	5DH8 608	6,3	14.5x31.0	17.0x34.0	38	85	1117	1125	131	3.58
3 X 35	5DH8 609	7,5	17.0x36.5	19.0x40.0	76	95	1493	1575	162	5.01
3 X 50	5DH8 610	8,9	19.0x42.0	21.5x45.5	86	108	2043	2250	202	7.15
3 X 70	5DH8 611	10,7	22.0x48.5	24.0x53.0	96	120	2803	3150	250	10.01
3 X 95	5DH8 612	12,3	23,5x52,0	26,0x56,5	104	130	3536	4275	301	13.59
3 X 120	5DH8 613	14,3	26,4x59,0	29,4x63,0	118	147	4547	5400	352	17.16
3 X 150	5DH8 614	16,0	29,1x66,4	32,1x70,9	128	161	5614	6750	404	21.45
3 X 185	5DH8 615	17,7	32,0x73,0	35,0x78,0	140	175	6804	8325	461	26,46

HYDROFIRM(T) S1BBH2-F, four-core design, with PE conductor, flat

4 G 1.5	5DH8 622	1,6	6.0x16.0	7.5x18.5	23	23	174	90	23	0.21
4 G 2.5	5DH8 623	2,0	6.0x16.0	7.5x18.5	23	23	214	150	30	0.36
4 G 4	5DH8 624	2,4	7.0x19.0	8.5x21.5	26	34	301	240	41	0.57
4 G 6	5DH8 625	2,9	8.0x22.5	9.5x25.5	29	38	411	360	53	0.86
4 G 10	5DH8 626	3,9	9.5x25.5	10.5x29.0	32	42	623	600	74	1.43
4 G 16	5DH8 627	5,0	12.5x33.0	14.5x36.5	58	73	1044	960	99	2.29
4 G 25	5DH8 628	6,3	14.5x41.0	17.0x44.5	68	85	1514	1500	131	3.58
4 G 35	5DH8 629	7,5	17.5x49.0	20.0x53.0	80	100	2102	2100	162	5.01
4 G 50	5DH8 630	8,9	19.5x56.5	22.0x60.5	88	110	2840	3000	202	7.15
4 G 70	5DH8 631	10,7	22.5x66.5	25.0x69.5	100	125	3896	4200	250	10.01
4 G 95	5DH8 632	12,3	24,0x70,7	27,0x74,7	108	135	4867	5700	301	13.59
4 G 120	5DH8 633	14,3	27,6x79,9	30,6x85,9	122	153	6291	7200	352	17.16
4 G 150	5DH8 634	16,0	29,9x88,6	32,9x94,6	132	165	7678	9000	404	21,45