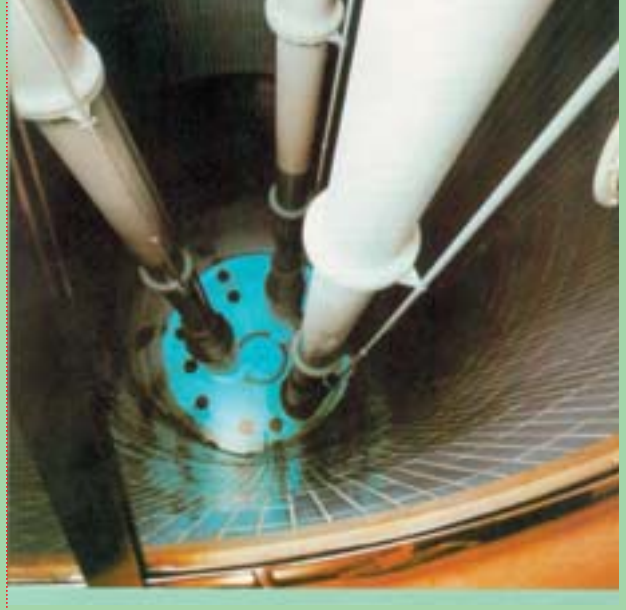
PRYSMIAN
CABLES & SYSTEMS

HYDROFIRM(T)
KTW/W270/ACS
S1BB-F and S1BBH2-F
0,6/1 kV
Drinking Water Application



Technical Data

	Trademark	HYDROFIRM(T)
	Type designation	S1BB-F (round version); S1BBH2-F (flat version)
	Specification	Design and tests according to Pirelli specification
	Application	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. The cables can also be used in drinking water, industrial water, cooling water, surface water, rainwater, ground water and sea water (salt water). These cables fulfil the requirements of health according to the German KTW-Recommendation, the requirements of the growth of microorganisms according to the German DVGW-Arbeitsblatt W270 and the Attestation de Conformité Sanitaire (ACS) according to the French law. The relevant certificates are available. If the water concerned is aggressive or composed of special substances, the cables resistance properties should be examined. These cables can be used indoors, outdoors, in industrial and agricultural plant, but not in explosion-hazard areas. In other respects, DIN VDE 0298-300 / HD 516 applies.
Electrical parameters	Rated voltage	Uo/U = 0.6/1 kV
	Maximum permissible operation voltage of plant and power system	- 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	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/mm², see selection table
	Minimum bending radii	See selection table

Technical Data

Special parameters	Water resistance	Test according to DIN VDE 0282-16 (HD 22.16)
	Requirements of health	Test according to the German KTW-Recommendation
	No growth of microorganisms	Test according to the German DVGW-Arbeitsblatt W270
	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	2 layer sheath system: Inner layer: EPR special compound; according to KTW-Recommendation; colour: blue Outer layer: EPR special compound; according to KTW, DVGW (W270) and ACS instructions; colour: blue. Flat version: One-sheath-system: EPR special compound; according to KTW, DVGW (W270) and ACS
Marking	HYDROFIRM(T) S1BB-F 4G25 0,6/1 kV KTW DVGW W270 ACS

Selection and ordering data

Number of cores and nominal cross-sectional area	Order-No.	Conductor diameter guidance value	Overall diameter of cable Min. value	Overall diameter of cable Max. value	Minimum bending radii (fixed installation)	Minimum bending radii (free moveable)	Approx. net weight for 1000 m	Tension force Max. value	Current-carrying capacity, touching surfaces, at 30°C, 3 cores loaded	Short-circuit current 1 s
mm^2		mm	mm	mm	mm	mm	kg	N	A	kA
Single-core										
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
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
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	Order-No.	Conductor diameter guidance value	Overall diameter of cable Min. value	Overall diameter of cable Max. value	Minimum bending radii (fixed installation)	Minimum bending radii (free moveable)	Approx. net weight for 1000 m	Tension force Max. value	Current-carrying capacity, touching surfaces, at 30°C, 3 cores loaded	Short-circuit current 1 s
mm²		mm	mm	mm	mm	mm	kg	N	A	kA
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
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 mm²	Order-No.	Conductor diameter guidance value mm	Overall diameter of cable Min. value mm	Overall diameter of cable Max. value mm	Minimum bending radii (fixed installation) mm	Minimum bending radii (free moveable) mm	Approx. net weight for 1000 m kg	Tension force Max. value N	Current-carrying capacity, touching surfaces, at 30°C, 3 cores loaded A	Short-circuit current 1 s kA
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
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