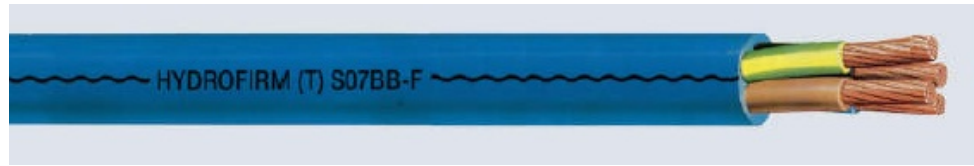


HYDROFIRM(T) S07BB-F



Application

HYDROFIRM(T) rubber-sheathed cables S07BB-F are intended for connection of electrical equipment in water and for medium mechanical stresses, e.g. submersible pumps, lowering of water level and booster plants. These cables are also suitable for use in drinking water, cooling water, surface water, rainwater. They further can be used in groundwater and seawater (salt water) up to 2000 m water depth. The outer sheath fulfills the requirements of health according to the "Elastomerleitlinien (ELL)" of the German "Umwelt Bundesamt" and the Attestation de Conformité Sanitaire (ACS) according to the French law. When corrosive water is involved, or water of some other special compositions must be investigated in each individual case. They may not be used in water containing more than 0,5 mg/l of chlorine.

These cables can be used indoors, outdoors, in industrial and agricultural plant, but not in explosion-hazard areas.

For protected, fixed installation within equipment, pipes or wells, as well as for rotor connections, these cables may be operated with an AC voltage to 1000 V or a DC voltage to 750 V with respect to earth. The permissible AC voltage for motor tests is 3 kV for a maximum duration of 3 minutes. In other respects the specifications of DIN EN 50565-2 apply.

Global data

Brand	HYDROFIRM(T)
Type designation	S07BB-F
Standard	Based on EN 50525-2-21

Notes on installation

Maximum Submersing Depth	2000 Meter
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Design features

Conductor	Plain copper, finely stranded class 5 in accordance with DIN EN 60228 / IEC 60228
Insulation	Ozone, water and weather resistant insulation compound, base EPR (Ethylene-Propylene Rubber)
Core identification	up to 5 cores: colored in accordance with DIN VDE 0293-308 more than 5 cores: DIN EN 50525-1 Annex D
Outer sheath	EPR special compound type EM6 according to DIN EN 50363-2-1; water resistant; Compound 3G357
Outer sheath colour	Blue

Electrical parameters

Rated voltage	450/750 V
Max. permissible operating voltage AC	0.476/0.825 kV
Max. permissible operating voltage DC	0.619/1.238 kV
AC test voltage - main cores	2.5 kV (15 Min.)

Chemical parameters

Water resistance	DIN EN 50525-2-21
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Thermal parameters

Max. permissible temperature at conductor	90 °C
Max. short circuit temperature of the conductor	250 °C
Max. permissible water temperature	60 °C (At higher water temperatures, a shortened cable service life is to be expected)
Ambient temperature for fix installation min.	-50 °C
Ambient temp. in fully flex. operation min.	-50 °C

Number of cores x cross section	Part number	Conductor diameter max. mm	Outer diameter min. mm	Outer diameter max. mm	Bending radius fixed min. mm	Bending radius free moving min. mm	Weight (approx.) kg/km	Conductor resistance at 20°C max. Ω/km	Current carrying capacity in water A	Short Circuit Current (conductor) max. (1s) kA
1x1,5	20003697	1.5	5.7	6.4	19	19	50	13.3	40	0.21
1x6		3	8.2	8.9	27	36	116	3.3	91	0.86
1x10	20003698	3.9	9.8	11	33	44	173	1.91	127	1.43
1x16	20003699	5.4	11.5	12.7	51	64	265	1.21	170	2.29
1x25	20003700	6.4	13.2	14.4	58	72	375	0.7839	225	3.56
1x35	20003701	7.7	14.9	16.4	66	82	485	0.554	278	5
1x50	20003702	9.2	17	18.5	74	93	670	0.386	347	7.15
1x70	20003703	11	18.6	20.1	80	101	859	0.272	429	10
1x95	20003704	12.5	21.9	23.4	94	117	1141	0.206	517	13.59
1x120	20003705	14.2	24.1	25.6	102	128	1436	0.161	605	17.16
1x150	20003706	16.6	26.4	28.6	114	143	1777	0.129	694	21.45
1x240	20003707	20.6	31.5	34	136	170	2900	0.0801	940	34.32
1x300	20014333	23.4	34.5	37.5	150	188	3500	0.0641	1087	42.9
1x400	20038391	27.1	38.5	41.9	168	210	4550	0.0486	1254	57.2
1G50	20064586	9.4	17.5	18.5	74	93	700	0.386	347	7.15
1G70	20064585	11	19	20	80	100	950	0.272	429	10.01
1G95	20064584	12.8	21.9	23.4	94	117	1200	0.206	517	13.59
1G120	20064583	14.5	24.3	26	104	130	1500	0.161	605	17.16
3x1,5		1.5	9.4	10.4	31	42	130	13.3	29	0.21
3x2,5	20003708	1.9	10.9	12.5	50	63	187	7.98	38	0.36
3x4	20003709	2.5	12.5	14.1	56	71	252	4.95	52	0.57
3x6	20003710	3	14	15.6	62	78	334	3.3	67	0.86
3x10	20007854	3.9	19.8	21.8	87	109	665	1.91	93	1.43
3x16	20003711	5.4	23.6	25.6	102	128	968	1.21	125	2.29
3x25	20003712	6.4	27	30	120	150	1352	0.7839	165	3.56
3x35	20003713	7.7	30.5	33.5	134	168	1707	0.554	205	5
3x50	20003714	9.2	35.6	38.6	154	193	2421	0.386	255	7.15
3x70	20003715	11	39.7	42.7	171	214	3289	0.272	316	10.01
3x95	20007182	12.8	45.6	48.6	194	243	4300	0.206	380	13.59
3x120	20008893	14.5	48.2	51.2	205	256	5300	0.161	445	17.16
3G1,5	20003716	1.5	9.4	10.4	31	42	137	13.3	29	0.21
3G2,5		1.9	10.9	12.5	50	63	197	7.98	38	0.36
3G4		2.5	12.5	14.1	56	71	269	4.95	52	0.57
4G1,5	20003717	1.5	10.1	11.7	35	47	157	13.3	29	0.21
4G2,5	20003718	1.9	12	13.6	54	68	235	7.98	38	0.36
4G4	20003719	2.5	14.2	15.8	63	79	335	4.95	52	0.57
4G6	20003720	3	15.5	17.5	70	88	428	3.3	67	0.86
4G10	20003721	3.9	20.9	22.9	92	115	746	1.91	93	1.43
4G16	20003722	5.4	24.5	27.5	110	138	1124	1.21	125	2.29
4G25	20003723	6.4	29.9	32.9	132	165	1668	0.7839	165	3.56
4G35	20003724	7.7	33.6	36.6	146	183	2184	0.554	205	5
4G50	20003725	9.2	39.5	42.5	170	213	3034	0.386	255	7.15
4G70	20003726	11	43.5	46.5	186	233	3975	0.272	316	10.01
4G95	20001433	12.5	50.6	54.6	218	273	5529	0.206	380	13.59
4G120	20003727	14.2	55.1	59.1	236	296	6771	0.161	445	17.16
4G150	20023159	16.5	59.6	63.6	254	318	8250	0.129	510	21.45
5x2,5	20040515	1.93	13.4	14.4	58	72	310	7.98	38	0.36

Number of cores x cross section	Part number	Conductor diameter max. mm	Outer diameter min. mm	Outer diameter max. mm	Bending radius fixed min. mm	Bending radius free moving min. mm	Weight (approx.) kg/km	Conductor resistance at 20°C max. Ω/km	Current carrying capacity in water A	Short Circuit Current (conductor) max. (1s) kA
7G1,5		1.5	15.2	16.7	67	84	353	13.3	29	0.21
7G2,5	20003729	1.9	17.2	18.9	76	95	494	7.98	38	0.36
7G4		2.5	20.7	22.7	91	114	714	4.95	52	0.57

Current carrying capacity in water: The values are valid for permanent operation with DC or AC with 50 up to 60 Hz at 30 °C ambient water temperature, two or three cores loaded, multi-core cables all cores loaded (cable compete immersed in water).

(2) Current carrying capacity free in air: The values are valid for permanent operation with DC or AC with 50 up to 60 Hz at 30 °C ambient temperature, two or three cores loaded (see also DIN VDE 298-4).