

OZOFLEX(PLUS) H07RN8-F



Application

OZOFLEX(PLUS) rubber-sheathed cables H07RN8-F are intended for connection of electrical equipment in contaminated water and for medium mechanical stresses. Due to the various substances in the contaminated water, the cables may be used only in easily accessible areas that can be inspected (installation depth of approx. 10 m, as normally used in sewage water tanks). These cables are also suitable for use in process water, cooling water, mine surface water, rainwater and combined waste water. They further can be used in groundwater and seawater; less stringent specifications in terms of accessibility and inspection can be imposed (in such cases the cables can be used at depths up to 2000 m). Water types are defined in accordance with DIN 4045 and DIN 4046. If the water concerned is aggressive or composed of special substances, the cable's resistance properties should be examined.

These cables can be used indoors, outdoors, in explosion-hazard areas to DIN VDE 0165, in fire-hazard locations, on construction sites in accordance with DIN VDE 0100 Part 704, in open-cast mining and in quarries in accordance with DIN VDE 0168, in industry and in agriculture. They can also be permanently installed, e.g. on plaster, on excavators or on hoisting gear. If they are permanently installed in protective conduits or equipment, or e.g. in well installations or are used as rotor circuit cables for motors, the cables may be operated with an AC voltage of up to 1000 V or a DC voltage to earth of up to 750 V.

Permissible AC test voltage in connection with motor tests is 3 kV, max. test duration of 3 minutes. The insulating and sheath materials used allow a max. conductor temperature of 90 °C. Thanks to this characteristic, which is verified by a report from the VDE Test and Certification Institute, cables may be used according to the specifications of Federal Testing Laboratories (PTB) for explosion-protected pumps. In other respects the specifications of DIN EN 50565-2 apply.

Global data

Brand	OZOFLEX(PLUS)
Type designation	H07RN8-F
Standard	DIN EN 50525-2-21

Notes on installation

Maximum Submersing Depth	2000 Meter
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Design features

Conductor	Copper, finely stranded, class 5 in accordance with DIN EN 60228 / IEC 60228; tinned up to and including 6 mm ²
Insulation	Vulcanized rubber compound, basis EPR, compound EI7 in accordance with DIN EN 50363-1
Core identification	up to 5 cores: colored in accordance with DIN VDE 0293-308 from 6 cores: acc. to EN 50525-1 Annex D
Inner sheath	for multicore cables with wall thickness of sheath > 2,4 mm and control cables: vulcanized rubber compound, basis EPR, compound EM6 in accordance with DIN EN 50363-2-1 Colour of sheath: light
Outer sheath	Vulcanized rubber compound, basis CPE, compound EM7 in accordance with DIN EN 50363-2-1
Outer sheath colour	Black

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

Flame propagation	DIN EN 60332-1-2
Resistance to oil	DIN EN 60811-404
Water resistance	DIN EN 50525-2-21

Thermal parameters

Max. permissible temperature at conductor	90 °C
Max. short circuit temperature of the conductor	250 °C
Max. permissible water temperature	40 °C (At higher water temperatures, a shortened cable service life is to be expected)
Ambient temperature for fix installation min.	-40 °C
Ambient temp. in fully flex. operation min.	-25 °C

Mechanical parameters

Max. tensile load on the conductor	15 N/mm ²
Min. bending radius	Acc. to DIN VDE 0298 part 3

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 free in air (2) A	Current carrying capacity in water A	Short Circuit Current (conductor) max. (1s) kA
1x1,5	20008093	1.5	5.6	6.4	19	19	49	13.7	33	40	0.21
1x2,5		1.9	6.3	7	21	21	50	8.21	43	52	0.36
1x4	20003613	2.4	7.3	8.1	24	32	92	5.09	43	52	0.57
1x6	20148843	2.9	7.9	8.7	26	35	115	3.39	59	70	0.86
1x10	20148844	3.9	9.8	11	33	44	186	1.91	76	91	1.43
1x16	20148845	5.7	10.6	11.8	35	47	257	1.21	106	127	2.29
1x25	20064587	6.8	12.9	14.1	56	71	371	0.7839	188	225	3.58
1x35	20003614	8	14.3	15.5	62	78	476	0.554	232	278	5.01
1x50	20003615	9.4	16.5	18	72	90	667	0.386	289	347	7.15
1x70	20003616	11	18.6	20.1	80	101	879	0.272	358	429	10.01
1x95	20003617	12.8	21.9	23.4	94	117	1180	0.206	431	517	13.59
1x120	20003618	14.5	23.4	24.9	100	125	1423	0.161	504	605	17.16
1x150	20003688	16.5	26.3	28.5	114	143	1804	0.129	578	694	21.45
1x185	20003683	17.9	28.5	30.7	123	154	2175	0.106	660	792	26.46
1x240	20003687	20.6	31.8	34	136	170	2804	0.0801	783	940	34.32
1x300	20003684	23.4	35.1	37.3	149	187	3407	0.0641	906	1087	42.9
2x1	20156716	1.2	7.7	8.7	26	35	94	20	19	23	0.14
2x1,5	20041045	1.5	8.6	9.6	29	38	116	13.7	24	29	0.21
2x2,5	20163164	1.9	10	11.6	35	46	169	8.21	32	38	0.36
2x4	20163165	2.4	11.9	13.5	54	68	239	5.09	43	52	0.57
2x6	20163811	2.9	13.5	15.1	60	76	314	3.39	56	67	0.86
3G1	20003620	1.2	8.2	9.2	28	37	107	20	19	23	0.14
3G1,5	20003621	1.5	9.4	10.4	31	42	142	13.7	24	29	0.21
3G2,5	20007343	1.9	10.9	12.5	50	63	207	8.21	32	38	0.36
3G4		2.4	12.8	14.4	58	72	289	5.09	43	52	0.57
3G6		2.9	14.4	16.4	66	82	384	3.39	56	67	0.86
3G10	20172908	3.9	19.9	21.9	88	110	712	1.91	78	93	1.43
3x1,5		1.5	9.4	10.4	31	42	142	13.7	24	29	0.21
3x2,5		1.9	10.9	12.5	50	63	207	8.21	32	38	0.36
3x4		2.4	12.8	14.4	58	72	289	5.09	43	52	0.57
3x6		2.9	14.4	16.4	66	82	384	3.39	56	67	0.86
3x10	20113319	3.9	19.9	21.9	88	110	690	1.91	78	93	1.43
3x16	20113320	5.7	23.5	25.5	102	128	994	1.21	104	125	2.29
3x25	20114481	6.8	26.8	29.8	119	149	1373	0.7839	138	165	3.58
3x35	20016655	8	30.3	33.3	133	167	1840	0.554	171	205	5.01
3x50	20003634	9.4	34.4	37.4	150	187	2412	0.386	213	255	7.15
3x70	20003635	11	39.1	42.1	168	211	3322	0.272	263	316	10.01
3x95	20151270	12.8	44.7	47.7	191	239	4150	0.206	317	380	13.59
3x120	20041913	14.5	47	51	204	255	5200	0.161	371	445	17.16
4G1	20003681	1.2	9.3	10.3	31	41	139	20	19	23	0.14
4G1,5	20003622	1.5	10.2	11.8	35	47	177	13.7	24	29	0.21
4G2,5	20003623	1.9	12	13.6	54	68	251	8.21	32	38	0.36
4G4	20003624	2.4	13.8	15.4	62	77	344	5.09	43	52	0.57
4G6	20003625	2.9	16.1	18.1	72	91	481	3.39	56	67	0.86
4G10	20003626	3.9	21.2	23.2	93	116	841	1.91	78	93	1.43
4G16	20003627	5.7	25.3	28.3	113	142	1256	1.21	104	125	2.29
4G25	20003628	6.8	29.9	32.9	132	165	1812	0.7839	138	165	3.58

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4G35	20003629	8	33.7	36.7	147	184	2312	0.554	171	205	5.01
4G50	20003630	9.4	38.6	41.6	166	208	3011	0.386	213	255	7.15
4G70	20003631	11	43.7	46.7	187	234	4230	0.272	263	316	10.01
4G95	20003632	12.8	50.3	54.3	217	272	5536	0.206	317	380	13.59
4G120	20003633	14.5	54.6	58.6	234	293	6724	0.161	371	445	17.16
5G1	20172298	1.2	10.1	11.7	35	47	168	20	19	23	0.14
5G1,5	20003682	1.5	11.1	12.7	51	64	210	13.7	24	29	0.21
5G2,5	20007386	1.9	13.3	14.9	60	75	303	8.21	32	38	0.36
5G4	20156864	2.4	15.6	17.6	70	88	437	5.09	43	52	0.57
5G6	20065655	2.9	16.6	18.6	74	93	550	3.39	56	67	0.86
5G10		3.9	23.6	26.6	106	133	1036	1.91	78	93	1.43
5G16	20182416	5.7	28.3	31.3	125	157	1524	1.21	104	125	2.29
6G1,5	20003671	1.5	13.6	15.2	61	76	297	13.7	24	29	0.21
7G1,5	20003678	1.5	15.2	17.2	69	86	362	13.7	24	29	0.21
8G1,5	20188803	1.5	17.5	19.5	78	98	452	13.7	24	29	0.21
10G1,5	20003680	1.5	18	20	80	100	477	13.7	24	29	0.21
11G1,5		1.5	18.1	20.1	80	101	490	13.7	24	29	0.21
12G1,5	20003668	1.5	17.2	19.2	77	96	480	13.7	24	29	0.21
7G2,5	20003672	1.9	17.5	19.5	78	98	500	8.21	32	38	0.36
8G2,5	20014373	1.9	18.7	20.7	83	104	563	8.21	32	38	0.36
10G2,5	20003675	1.9	21	22.8	91	114	647	8.21	32	38	0.36
12G2,5	20003669	1.9	21.1	23.1	92	116	708	8.21	32	38	0.36

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 (cable compete immersed in water).

(2) Current carrying capacity on surface: 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 298-4-15.4).