

SINGLE CORE 3.3KV RE110

Highly Flexible, Single Core Rubber Cables



APPLICATION

- ~ Internal Switchboard Cabling
- ~ Electrical Traction Vehicles
- ~ Machine & Equipment Cabling
- ~ Stacker & Reclaimer cabling
- ~ Submersible to 100 meters
- ~ Submains
- ~ Battery Bank Connections
- ~ Steelworks, cranes & hoists
- ~ DC wiring
- ~ Fixed Wiring 110°C Rated

DESIGN

Single core 3.3kV flex cables consist of extra finely stranded tinned copper conductors laid up to provide an extremely flexible design. Protolon R-EP-90 elastomer insulation rated 3.3kV and an oil resistant, flame retardant PCP sheath complete the construction. The cable is in accordance with AS1125, AS3116 and VDE0250 part 602. for NSGAFOeu.

Permissible thermal short-circuit currents for 1 s duration
(conductor temperature at start of short-circuit: 110°C):

[mm²]	4	6	10	16	25	35	50	70	95	120	150	185	240
[ka]	0.488	0.732	1.22	1.95	3.05	4.27	6.1	8.54	11.6	14.6	18.3	22.6	29.3

The thermal as well as the dynamic short-circuit strength must be taken into account. The cables must in particular be firmly fixed to protect them from the effects of peak short-circuit currents.

TENSILE STRENGTH

The maximum allowable tensile stress is 15N/mm². This ensures no conductor damage will occur in operation.

CURRENT CARRYING CAPACITY

Current ratings are based on continuous operation at an ambient temperature of 40°C. At other temperatures these values must be converted using the following factors.

°C	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	100
Factor	1.16	1.13	1.1	1.07	1.04	1	0.96	0.93	0.89	0.85	0.8	0.76	0.71	0.65	0.60	0.53	0.38

OPERATING TEMPERATURE

- Minimum permissible ambient temperature -40°C
- Maximum permissible conductor temperature fixed 110°C
- Maximum permissible conductor temperature flexing 90°C
- Maximum permissible short circuit temperature 250°C
- Minimum ambient temperature for optimum fully flexible operation -25°C

MINIMUM BENDING RADII

The following minimum bending radii should be observed to ensure operating reliability

- For fixed installation 6 x cable diameter
- When freely flexing 8 x cable diameter

VOLTAGE RATING

- Rated Voltage: 0.6/1kV to 3.3kV AC
- Maximum operating voltages in:
 - 3 phase AC operation $U_0/U = 2.1/3.6kV$
 - DC operation $U_0/U = 2.7/5.4kV$
 - AC test voltage = 6kV

Part No.	Number of Cores x Conductor Size mm ²	Approx. No of Strands x Max. Strand Diameter mm	Diameter of Bare Conductor mm	Cable Overall Diameter		Cable Weight kg/km	Current Carrying Capacity when installed In air A
				Min mm	Max mm		
5DF2 043	1 x 1.5	28 x 0.26	1.47	5.3	7	55	31
5DF2 053	1 x 2.5	45 x 0.26	1.91	5.7	7.5	65	43
5DF2 063	1 x 4	51 x 0.31	2.54	6.2	9	85	57
5DF2 073	1 x 6	75 x 0.31	3.16	6.8	9.5	110	73
5DF2 103	1 x 10	77 x 0.41	4.12	8.2	11	160	99
5DF2 123	1 x 16	123 x 0.41	5.6	9.2	13	240	130
5DF2 133	1 x 25	190 x 0.41	6.8	11.3	15	365	175
5DF2 143	1 x 35	268 x 0.41	8.1	12.6	16.5	475	220
5DF2 153	1 x 50	384 x 0.41	9.65	14	18	640	265
5DF2 163	1 x 70	545 x 0.41	11.2	15.7	20.5	850	340
5DF2 173	1 x 95	724 x 0.41	13.2	17.9	24	1110	420
5DF2 183	1 x 120	926 x 0.41	14.9	19.6	26	1350	490
5DF2 203	1 x 150	1154 x 0.41	16.6	21.5	28	1650	570
5DF2 213	1 x 185	1407 x 0.41	18	23.5	31	2000	660
5DF2 223	1 x 240	1866 x 0.41	21.2	26.4	34.5	2600	790
5DF2 233	1 x 300*	1551 x 0.51	23.6	29.3	36.9	3460	910
5DF2 243	1 x 400*	1995 x 0.51	27.2	32.5	39.5	4332	1070

* Subject to Manufacture

Current Ratings based on Table 8 AS3008.1.1.1998