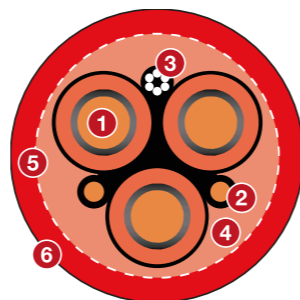


UTVFLEX® - R MT FO

(N) TSCGEWÖU

Based on DIN VDE 0250 Part 813

Flexible reeling cable with integrated fibre optics wires for high and extreme mechanical stresses, e.g. torsional stress, deflection into different planes and high reeling speed. Also usable for reeling application in underground and opencast mining.



1 PHASE CONDUCTORS

MATERIAL: tinned copper
CONSTRUCTION: class 5 VDE 0295 (IEC 60228), special construction for higher flexibility
INSULATION MATERIAL: 3GI3 quality rubber compound, according to VDE 0207 Part 20
SEMICONDUCTIVE LAYERS: semiconductive tape over the conductor and inner and outer semiconductive rubber layer on the insulation

2 EARTH CONDUCTORS

MATERIAL: tinned copper
CONSTRUCTION: class 5 VDE 0295 (IEC 60228), special construction for higher flexibility
COVERING MATERIAL: semiconductive layer

3 FIBRE OPTICS

FIBRE: transmission data kind 50/125 multimode, 62.5/125 multimode, 9/125 singlemode
NOMINAL NUM. APERTURE: 250 µm
FIBRES ARRANGEMENT COVERING: special rubber compound over the twisted cores

CENTRAL CRADLE

MATERIAL: semiconductive compound

CORES ASSEMBLY

ASSEMBLY: twisted cores with earth conductor split into 2 parts + FO
SEPARATOR ON THE TWISTED ASSEMBLY: semiconductive tape wound on the twisted cores

4 INNER SHEATH

MATERIAL: Gm1b / 5GM5 quality rubber compound, according to VDE 0207 Part 21

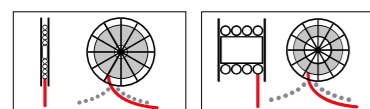
5 ANTITWISTING ELEMENT

MATERIAL: polyester braid between inner and outer sheath

6 OUTER SHEATH

MATERIAL: 5GM5 quality rubber compound, according to VDE 0207 Part 21
COLOUR: red

APPLICATION



ELECTRICAL WORKING DATA

Nominal rated voltage U_0 / U	kV	3,6/6	6/10	8,7/15	12/20
Test voltage	kV	11	17	24	29
Max AC voltage	kV	4,2/7,2	6,9/12	10,4/18	13,9/24
Electrical field control	Inner and outer semiconductive layers extruded in a single-pass with the insulation				
Current rating	A	According to VDE 0298 Part 4			

THERMAL WORKING DATA

Maximum short circuit temperature	°C	250
Maximum working temp. on the conductor	°C	90
Minimum ambient temperature	°C	Mobile condition: -30 Static condition: -50

MECHANICAL WORKING DATA

Bending radius	mm	According to VDE 0298 Part 3
Maximum torsional stress	°/m	±25
Maximum tensile load*	N/mm ²	30
Max working speed	m/min	240
Special test	Reeling test	

* Referred to the total phase conductors cross section

CHEMICAL WORKING DATA

Oil resistance	According to IEC 60811-404
Ozone resistance	According to IEC 60811-403
Burning behaviour	According to IEC 60332-1-2
UV resistance	According to ISO 4892-2

OPTICAL WORKING DATA

FIBRE	OPTICAL WORKING DATA				STEP INDEX SINGLEMODE FIBRE				
	Attenuation at 850 nm (dB/km)	Attenuation at 1300 nm (dB/km)	Bandwidth at 850 nm (MHz*km)	Bandwidth at 1300 nm (MHz*km)	Numerical aperture	Attenuation at 1310 nm (dB/km)	Attenuation at 1550 nm (dB/km)	Chromatic disp. at 1285-1300 nm (ps/nm km)	Chromatic dispersion at 1550 nm (ps/nm km)
50/125	≤ 2,5	≤ 0,7	≤ 200	≤ 500	0,200 ± 0,015				
62,5/125	≤ 3,0	≤ 0,7	≥ 200	≥ 500	0,275 ± 0,015				
9/125						≤ 0,35	≤ 0,24	≤ 3	≤ 18

UTVFLEX® - R MT FO

VOLTAGE	CORES X CROSS SECTION	CONDUCTOR Ø	MIN OVERALL Ø	MAX OVERALL Ø	APPROX WEIGHT	MAX TENSILE LOAD
kV	Nr x mm ²	mm	mm	mm	kg/km	N
3,6/6	3x25 + 2x25/2 + FO	6,9	43,2	45,1	2940	2250
3,6/6	3x35 + 2x25/2 + FO	7,8	46,5	48,4	3500	3150
3,6/6	3x50 + 2x25/2 + FO	9,3	49,7	51,7	4190	4500
3,6/6	3x70 + 2x35/2 + FO	11,1	53,5	55,8	5210	6300
3,6/6	3x95 + 2x50/2 + FO	12,7	59,6	61,9	6490	8550
3,6/6	3x120 + 2x70/2 + FO	14,5	63,4	66	7770	10800
3,6/6	3x150 + 2x70/2 + FO	16,7	69,9	72,6	9380	13500
3,6/6	3x185 + 2x95/2 + FO	17,6	73,1	77,2	9530	16650
3,6/6	3x240 + 2x120/2 + FO	20,05	77	81,2	11970	21600

6/10	3x25 + 2x25/2 + FO	6,9	43,2	45,1	2940	2250
6/10	3x35 + 2x25/2 + FO	7,8	46,5	48,4	3500	3150
6/10	3x50 + 2x25/2 + FO	9,3	49,7	51,7	4190	4500
6/10	3x70 + 2x35/2 + FO	11,1	53,5	55,8	5210	6300
6/10	3x95 + 2x50/2 + FO	12,7	59,6	61,9	6550	8550
6/10	3x120 + 2x70/2 + FO	14,5	63,4	66	7830	10800
6/10	3x150 + 2x70/2 + FO	16,7	69,9	72,6	9440	13500
6/10	3x185 + 2x95/2 + FO	17,6	73,1	77,2	9750	16650
6/10	3x240 + 2x120/2 + FO	20,05	77	81,2	12060	21600

VOLTAGE	CORES X CROSS SECTION	CONDUCTOR Ø	MIN OVERALL Ø	MAX OVERALL Ø	APPROX WEIGHT	MAX TENSILE LOAD
kV	Nr x mm ²	mm	mm	mm	kg/km	N
8,7/15	3x25 + 2x25/2 + FO	6,9	48	49,9	3460	2250
8,7/15	3x35 + 2x25/2 + FO	7,8	49,9	52,2	3910	3150
8,7/15	3x50 + 2x25/2 + FO	9,3	53,1	55,4	4600	4500
8,7/15	3x70 + 2x35/2 + FO	11,1	58,8	61,1	5890	6300
8,7/15	3x95 + 2x50/2 + FO	12,7	62,1	64,7	6850	8550
8,7/15	3x120 + 2x70/2 + FO	14,5	67,8	70,4	8410	10800
8,7/15	3x150 + 2x70/2 + FO	16,7	71,1	73,4	8630	13500
8,7/15	3x185 + 2x95/2 + FO	17,6	74,2	77,1	9760	16650
8,7/15	3x240 + 2x120/2 + FO	20,05	78,1	83,1	12520	21600

12/20	3x25 + 2x25/2 + FO	6,9	50,5	52,8	3740	2250
12/20	3x35 + 2x25/2 + FO	7,8	52,6	54,9	4200	3150
12/20	3x50 + 2x25/2 + FO	9,3	57,5	59,8	5130	4500
12/20	3x70 + 2x35/2 + FO	11,1	61,3	63,9	6240	6300
12/20	3x95 + 2x50/2 + FO	12,7	64,7	67,3	7220	8550
12/20	3x120 + 2x70/2 + FO	14,5	70,4	73,1	8850	10800
12/20	3x150 + 2x70/2 + FO	16,7	74,1	76,4	9050	13500
12/20	3x185 + 2x95/2 + FO	17,6	77,1	81,1	10630	16650
12/20	3x240 + 2x120/2 + FO	20,05	81,2	86,3	13040	21600

UTVFLEX® - RS MT FO (smaller version)

VOLTAGE	CORES X CROSS SECTION	CONDUCTOR Ø	MIN OVERALL Ø	MAX OVERALL Ø	APPROX WEIGHT	MAX TENSILE LOAD
kV	Nr x mm ²	mm	mm	mm	kg/km	N
3,6/6	3x25 + 2x25/2 + FO	6,6	38,6	41,6	2370	2250
3,6/6	3x35 + 2x25/2 + FO	8	40,1	43,1	2720	3150
3,6/6	3x50 + 2x25/2 + FO	9,3	42,7	45,7	3320	4500
3,6/6	3x70 + 2x35/2 + FO	11,2	46,8	49,8	4310	6300
3,6/6	3x95 + 2x50/2 + FO	13	51	55	5300	8550
3,6/6	3x120 + 2x70/2 + FO	15	55,4	59,4	6620	10800
3,6/6	3x150 + 2x70/2 + FO	16,9	61,1	65,1	7860	13500
3,6/6	3x185 + 2x95/2 + FO	18,3	64,8	68,8	9170	16650
3,6/6	3x240 + 2x120/2 + FO	20,5	72	76	11970	21600

6/10	3x25 + 2x25/2 + FO	6,6	39,2	42,2	2420	2250
6/10	3x35 + 2x25/2 + FO	8	40,8	43,8	2780	3150
6/10	3x50 + 2x25/2 + FO	9,3	43,7	46,7	3430	4500
6/10	3x70 + 2x35/2 + FO	11,2	47,8	50,8	4420	6300
6/10	3x95 + 2x50/2 + FO	13	52	56	5420	8550
6/10	3x120 + 2x70/2 + FO	15	56,1	60,1	6690	10800
6/10	3x150 + 2x70/2 + FO	16,9	62	66	7970	13500
6/10	3x185 + 2x95/2 + FO	18,3	65,5	69,5	9330	16650
6/10	3x240 + 2x120/2 + FO	20,5	72,7	76,7	12060	21600

VOLTAGE	CORES X CROSS SECTION	CONDUCTOR Ø	MIN OVERALL Ø	MAX OVERALL Ø	APPROX WEIGHT	MAX TENSILE LOAD
kV	Nr x mm ²	mm	mm	mm	kg/km	N
8,7/15	3x25 + 2x25/2 + FO	6,6	41,5	44,5	2610	2250
8,7/15	3x35 + 2x25/2 + FO	8	42,5	45,5	2980	3150
8,7/15	3x50 + 2x25/2 + FO	9,3	45,8	48,8	3630	4500
8,7/15	3x70 + 2x35/2 + FO	11,2	50,2	54,2	4730	6300
8,7/15	3x95 + 2x50/2 + FO	13	54,5	58,5	5720	8550
8,7/15	3x120 + 2x70/2 + FO	15	60,5	64,5	7280	10800
8,7/15	3x150 + 2x70/2 + FO	16,9	64,6	68,6	8320	13500
8,7/15	3x185 + 2x95/2 + FO	18,3	68	72	9760	16650
8,7/15	3x240 + 2x120/2 + FO	20,5	75,4	79,4	12520	21600

12/20	3x25 + 2x25/2 + FO	6,6	44,8	47,8	2980	2250
12/20	3x35 + 2x25/2 + FO	8	46,5	49,5	3370	3150
12/20	3x50 + 2x25/2 + FO	9,3	50	54	4110	4500
12/20	3x70 + 2x35/2 + FO	11,2	54,1	58,1	5160	6300
12/20	3x95 + 2x50/2 + FO	13	58	62	6130	8550
12/20	3x120 + 2x70/2 + FO	15	64,3	68,3	7800	10800
12/20	3x150 + 2x70/2 + FO	16,9	68,4	72,4	8850	13500
12/20	3x185 + 2x95/2 + FO	18,3	73,7	77,7	10630	16650
12/20	3x240 + 2x120/2 + FO	20,5	78,5	83,5	13040	21600

The diameter and weight shown is approximate, they may have some tolerance (to be confirmed when ordering).
Other cross sections and colors available upon request.