



YOUR MOVING POWER®



REELING CABLES
UTVFLEX®





REELING CABLES
UTVFLEX®

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Company Profile

UTV CAVI was founded in Italy in 2000 by a team of widely experienced professionals who had been working with reeling cables for different application fields for over 35 years.

Our main applications and sectors are:

- reeling application
- festoon application
- mining application
- tunnelling application
- steel mills
- sea ports
- infrastructure
- off-shore application
- marine application

We pride ourselves on providing our clients with an outstanding service (pre and after sales): prompt, efficient and professional.

UTV CAVI has improved its business over the years and at the moment is exporting to over 40 different countries across the world, thanks to its representative offices and its brand new branch in Malaysia: UTV Asia.

The new subsidiary has its own warehouse to allow us to meet any client's need and request and to be more and more competitive in the Asian market.



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Main features summary

	MAX WORKING SPEED	RATED VOLTAGE	TEST VOLTAGE	WORKING TEMP. ON THE CONDUCTOR	SHORT CIRCUIT TEMP.	OIL RESISTANCE	OZONE RESISTANCE	UV RESISTANCE	BURNING BEHAVIOR	MONOSPIRAL DRUM	MULTISPIRAL DRUM	CYLINDRICAL DRUM	VERTICAL DRUM	SPREADER BASKET	MOTORIZED SPREADER	FESTOON	SYSTEM WITH CABLE TENDERS	GUIDE PULLEY SYSTEMS	CARRIER CHAINS
	m/min	V-kV	kV	°C	°C														
UTVFLEX® / UTVFLEX® - S	120	0,6/1	4	90	250	✓	✓	✓	✓	✗	✗	✗				✗			✗
UTVFLEX® - VS	180	0,6/1	4	90	250	✓	✓	✓	✓	✗	✗	✓	✓		✓		✓	✓	
UTVFLEX® - PUR HF	180	0,6/1	4	90	250	✓	✓		✓	✗	✗	✓	✓				✓	✓	
UTVFLEX® - SPR	240	0,6/1	4	90	200	✓	✓	✓	✓		✗	✓	✓		✓		✗	✗	
UTVFLEX® BASKET	160	0,6/1	2	70*	150**	✓	✓		✓					✓					
UTVFLEX® FESTOON / FESTOON FO	240	0,6/1	4	90	250	✓	✓	✓	✓							✓			
UTVFLEX® - R MT / R-MT FO	120	3,6/6 6/10 8,7/15 12/20 11/17/24/29		90	250	✓	✓	✓	✓	✗	✗	✗							✗
UTVFLEX® - RF/MT FO	240	3,6/6 6/10 8,7/15 12/20 11/17/24/29		90	250	✓	✓	✓	✓	✗	✗	✗							✗

ON REQUEST AVAILABLE:
* 90°C UTVFLEX® BASKET
** 250°C UTVFLEX® BASKET

Main application Suitable

UTVFLEX®

NSHTÖU-O/J

DIN VDE 0250 Part 814 Approved

Flexible cable designed for power and signalling mobile connections, under severe mechanical stresses (tensile strength and torsion), for heavy duty conditions, abrasion and crushing. The cable is typically used in cable winding reels for harbour cranes, container cranes, conveyors, handling machines and mining and tunnelling equipment.



1 PHASE CONDUCTORS

MATERIAL: tinned copper
CONSTRUCTION: class 5 VDE 0295 (IEC 60228)

2 INSULATION

MATERIAL: 3GI3 rubber compound, according to VDE 0207 Part 20
THICKNESS: According to VDE 0250 Part 814

CORES IDENTIFICATION

According to DIN VDE 0293 Part 308 (HD 308 S2)

LAYING-UP

≤ 8 times the laying-up cores diameter

3 INNER SHEATH

MATERIAL: GM1b quality rubber compound, according to VDE 0207 Part 21

4 ANTITWISTING ELEMENT

MATERIAL: polyester braid between inner and outer sheath

5 OUTER SHEATH

MATERIAL: special rubber compound, at least 5GM3 quality, according to VDE 0207 Part 21
COLOUR: black

ELECTRICAL WORKING DATA

Nominal rated voltage U_0 / U	kV	0,6/1
Test voltage	kV	4
Max AC voltage	kV	0,7/1,2
Max DC voltage	kV	1,8
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: -25 Static condition: -40

* For ambient temperature up to -40 °C in mobile application the cable UTVFLEX®-K is available

MECHANICAL WORKING DATA

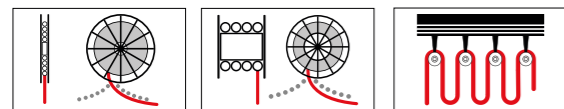
Bending radius	mm	According to VDE 0298 Part 3
Maximum torsional stress	°/m	± 25
Maximum tensile load*	N/mm ²	20
Max working speed	m/min	120
Special test		Reeling test

* 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

APPLICATION



UTVFLEX®

VOLTAGE	CORES X CROSS SECTION	CONDUCTOR Ø	MIN OVERALL Ø	MAX OVERALL Ø	APPROX WEIGHT	MAX TENSILE LOAD
kV	Nr × mm ²	mm	mm	mm	kg/km	N
0,6/1	3G1,5	1,5	13,8	14,8	270	90
0,6/1	3G2,5	1,9	15,3	16,3	330	150
0,6/1	3G4	2,4	17,0	18,0	420	240
0,6/1	3G6	2,9	18,3	19,3	520	360
0,6/1	3G10	3,8	21,4	23,3	750	600
0,6/1	3G16	4,8	23,5	25,4	970	960
0,6/1	3G25	6,9	28,2	30,2	1450	1500
0,6/1	3G35	7,8	31,6	33,6	1890	2100
0,6/1	3G50	9,3	36,8	38,8	2600	3000
0,6/1	3G70	11,1	40,4	43,3	3340	4200
0,6/1	3G95	12,7	46,3	49,2	4380	5700
0,6/1	3G120	14,5	49,9	52,9	5330	7200
0,6/1	3G150	16,7	55,4	58,4	6700	9000
0,6/1	3G185	17,6	62,6	66,5	8100	11100
0,6/1	3G240	20,6	67,8	70,2	10850	14400

0,6/1	3×35+3G16/3	7,8	31,6	33,6	2100	2100
0,6/1	3×50+3G25/3	9,3	36,8	38,8	2800	3000
0,6/1	3×70+3G35/3	11,1	40,4	43,3	3790	4200
0,6/1	3×95+3G50/3	12,7	46,3	49,2	4710	5700
0,6/1	3×120+3G70/3	14,5	49,9	52,9	5840	7200
0,6/1	3×150+3G70/3	16,7	55,4	58,4	7080	9000
0,6/1	3×185+3G95/3	17,6	62,6	66,5	8940	11100
0,6/1	3×240+3G120/3	20,6	67,8	70,2	11320	14400

0,6/1	4G1,5	1,5	14,6	15,6	300	120
0,6/1	4G2,5	1,9	16,7	17,7	400	200
0,6/1	4G4	2,4	18,2	19,2	500	320
0,6/1	4G6	2,9	19,6	20,6	620	480
0,6/1	4G10	3,8	23,0	24,9	890	800
0,6/1	4G16	4,8	25,1	27,0	1170	1280
0,6/1	4G25	6,9	32,2	34,2	1900	2000
0,6/1	4G35	7,8	34,4	36,4	2340	2800
0,6/1	4G50	9,3	40,0	42,9	3250	4000
0,6/1	4G70	11,1	44,2	47,1	4180	5600
0,6/1	4G95	12,7	50,6	53,6	5500	7600
0,6/1	4G120	14,5	56,5	59,5	6950	9600
0,6/1	4G150	16,7	62,6	66,5	8570	12000
0,6/1	4G185	17,6	67,4	71,4	10160	14800

VOLTAGE	CORES X CROSS SECTION	CONDUCTOR Ø	MIN OVERALL Ø	MAX OVERALL Ø	APPROX WEIGHT	MAX TENSILE LOAD
kV	Nr × mm ²	mm	mm	mm	kg/km	N
0,6/1	4×10+4×2.5		23,2	25,3	1060	800
0,6/1	4×16+4×2.5		25,5	27,6	1360	1280
0,6/1	4×25+4×2.5		29,6	32,8	1910	2000
0,6/1	4×35+4×2.5		32,8	36,0	2530	2800

0,6/1	5G1,5	1,5	15,5	16,5	350	150
0,6/1	5G2,5	1,9	17,8	18,8	460	250
0,6/1	5G4	2,4	19,4	20,4	580	400
0,6/1	5G6	2,9	21,3	23,2	750	600
0,6/1	5G10	3,8	24,8	26,7	1060	1000
0,6/1	5G16	4,8	27,1	29,0	1410	1600
0,6/1	5G25	6,9	35,0	37,0	2290	2500
0,6/1	5G35	7,8	38,8	40,8	2940	3500
0,6/1	5G50	9,3	43,6	46,5	3940	5000
0,6/1	5G70	11,1	50,0	53,0	5300	7000

0,6/1	7G1,5	1,5	18,0	19,0	440	210
0,6/1	12G1,5	1,5	20,0	21,9	580	360
0,6/1	18G1,5	1,5	23,1	25,0	790	540
0,6/1	24G1,5	1,5	26,7	28,6	1040	720
0,6/1	30G1,5	1,5	27,7	29,6	1140	900
0,6/1	36G1,5	1,5	30,0	32,0	1360	1080
0,6/1	42G1,5	1,5	32,1	34,1	1570	1260
0,6/1	44G1,5	1,5	35,0	37,0	1790	1320
0,6/1	50G1,5	1,5	36,7	38,7	1990	1500

0,6/1	7G2,5	1,9	20,2	22,1	590	350
0,6/1	12G2,5	1,9	23,2	25,1	790	600
0,6/1	18G2,5	1,9	26,8	28,7	1110	900
0,6/1	24G2,5	1,9	31,2	33,2	1480	1200
0,6/1	30G2,5	1,9	32,4	34,4	1620	1500
0,6/1	36G2,5	1,9	36,1	38,1	2030	1800
0,6/1	42G2,5	1,9	38,7	40,7	2330	2100
0,6/1	44G2,5	1,9	41,8	44,7	2650	2200
0,6/1	50G2,5	1,9	43,9	45,6	2990	2500

0,6/1	7G4	2,4	22,6	24,5	760	560
0,6/1	12G4	2,4	30,3	32,3	1400	960
0,6/1	18G4	2,4	31,9	33,9	1580	1440

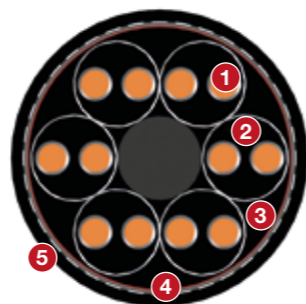
The diameter and weight shown is approximate, they may have some tolerance (to be confirmed when ordering). Other cross sections and colors available upon request.

UTVFLEX® - S

(N)SHTÖU-JZ/-OZ

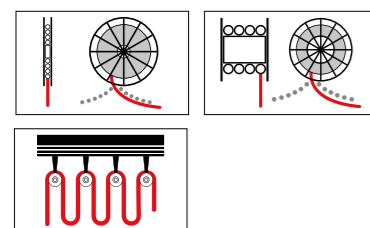
Flexible power cables for use on connecting movable parts of machine tools and any material handling equipment (i.e. Stacker/reclaimer, ship to shore crane, container crane festoon, grabtype ship unloading, gantry festoons, timber crane festoons, etc.).

Suitable for any energy supply on cable reels and festoon systems associated to high mechanical stresses, frequent bending/torsional operation and fast movement with strong acceleration.



- 1 PHASE CONDUCTORS**
MATERIAL: tinned copper
CONSTRUCTION: flexible cl.5 IEC 60228
- 2 INSULATION**
MATERIAL: EPR compound better than 3GI3
- CORES IDENTIFICATION**
Black with printed numbers with or without 1 green/yellow
Each cores consecutively numbered
- SHIELD (ON SINGLE CORE OR PAIR)**
Tinned copper braid screen
At least 70 % on cores
At least 80 % on pairs
- PAIRS**
Two cores layed up
Textile filler in the interstices to mantein good geometrical characteristics
- LAYNG-UP**
Short lay length for better flexibility
≤7 times the laying-up cores diameter (in maximum 3 layer for multicores cables)
- SEPARATION**
Tape(s)
- 3 INNER SHEATH**
MATERIAL: Polychloroprene rubber based compound
Better than GM1b
- 4 ANTITWISTING ELEMENT**
MATERIAL: Synthetic yarns
Firmly bonded between inner and outer sheath
- 5 OUTER SHEATH**
MATERIAL: Black polychloroprene rubber compound
UV resistant oil and chemical resistant better then 5GM2

APPLICATION



ELECTRICAL WORKING DATA

Nominal rated voltage U_0 / U	kV	0,6/1
Test voltage	kV	4
Max AC voltage	kV	0,7/1,2
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: -25 Static condition: -40

* For ambient temperature up to -40 °C in mobile application the cable UTVFLEX®-K is available

MECHANICAL WORKING DATA

Bending radius	mm	According to VDE 0298 Part 3
Maximum tensile load*	N/mm ²	15
Max working speed	m/min	60
Special test		Reeling test

* Referred to the total phase conductors cross section

CHEMICAL WORKING DATA

Oil resistance	According to IEC 60811-404
Weather resistance	Unrestricted use outdoor and indoor, UV resistant, moisture resistant

UTVFLEX® - S

VOLTAGE kV	CORES X CROSS SECTION Nr x mm ²	MIN OVERALL Ø mm	MAX OVERALL Ø mm	APPROX WEIGHT kg/km	MAX TENSILE LOAD N
0,6/1	3x(2x1.0)C	20,9	23,0	670	90
0,6/1	3x(2x1.5)C	21,4	23,5	740	135
0,6/1	6x(2x1.0)C	26,9	29,0	1080	180
0,6/1	6x(2x1.5)C	28,3	30,3	1210	270
0,6/1	6x(2x2.5)C	30,6	33,6	1570	450
0,6/1	19x2,5+5x1 (c)	30,6	33,8	1580	713
0,6/1	19x2,5+5x1,5 (c)	30,6	33,8	1630	713
0,6/1	25x2,5+5x1 (c)	32,6	35,8	1820	938
0,6/1	25x2,5+5x1,5 (c)	32,6	35,8	1850	938
0,6/1	26x2,5+10x1 (c)	36,2	39,4	2150	975

*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.*

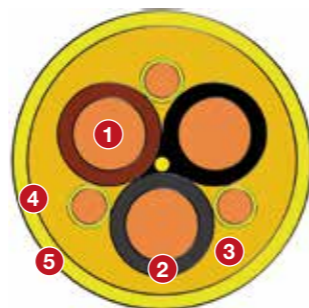


UTVFLEX® - VS

NSHTÖU-O/J

Based on DIN VDE 0250 Part 814

Flexible cable designed for power mobile connections, under very high mechanical stresses (tensile strength and torsion), for heavy duty conditions, abrasion and crushing. The cable is typically used in cable winding reels for harbour cranes, container cranes, conveyors, handling machines for vertical reeling applications.



1 PHASE CONDUCTORS

MATERIAL: tinned copper
CONSTRUCTION: class 5 VDE 0295 (IEC 60228)

2 INSULATION

MATERIAL: 3GI3 rubber compound, according to VDE 0207 Part 20
THICKNESS: According to VDE 0250 Part 814

CORES IDENTIFICATION

According to DIN VDE 0293 Part 308 (HD 308 S2)

LAYING-UP

≤ 8 times the laying-up cores diameter

3 INNER SHEATH

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

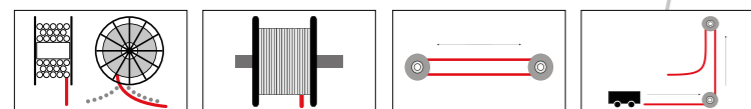
4 ANTITWISTING ELEMENT

MATERIAL: polyester braid between inner and outer sheath

5 OUTER SHEATH

MATERIAL: special rubber compound, at least 5GM5 quality, according to VDE 0207 Part 21
COLOUR: yellow

APPLICATION



ELECTRICAL WORKING DATA

Nominal rated voltage U_0 / U	kV	0,6/1
Test voltage	kV	4
Max AC voltage	kV	0,7/1,2
Max DC voltage	kV	1,8
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

* For ambient temperature up to -40 °C in mobile application the cable UTVFLEX®-K is available

MECHANICAL WORKING DATA

Bending radius	mm	According to VDE 0298 Part 3
Maximum torsional stress	°/m	±50
Maximum tensile load*	N/mm ²	30
Max working speed	m/min	180
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

UTVFLEX® - VS

VOLTAGE kV	CORES X CROSS SECTION Nr × mm ²	CONDUCTOR Ø mm	MIN OVERALL Ø mm	MAX OVERALL Ø mm	APPROX WEIGHT kg/km	MAX TENSILE LOAD N
0,6/1	3G1,5	1,5	13,8	14,8	270	135
0,6/1	3G2,5	1,9	15,3	16,3	330	225
0,6/1	3G4	2,4	17,0	18,0	420	360
0,6/1	3G6	2,9	18,3	19,3	520	540
0,6/1	3G10	3,8	21,4	23,3	750	900
0,6/1	3G16	4,8	23,5	25,4	970	1440
0,6/1	3G25	6,9	28,2	30,2	1450	2250
0,6/1	3G35	7,8	31,6	33,6	1890	3150
0,6/1	3G50	9,3	36,8	38,8	2600	4500
0,6/1	3G70	11,1	40,4	43,3	3340	6300
0,6/1	3G95	12,7	46,3	49,2	4380	8550
0,6/1	3G120	14,5	49,9	52,9	5330	10800
0,6/1	3G150	16,7	55,4	58,4	6700	13500
0,6/1	3G185	17,6	62,6	66,5	8100	16650
0,6/1	3G240	20,6	67,8	70,2	10850	21600

0,6/1	3x35+3G16/3	7,8	31,6	33,6	2100	3150
0,6/1	3x50+3G25/3	9,3	36,8	38,8	2800	4500
0,6/1	3x70+3G35/3	11,1	40,4	43,3	3790	6300
0,6/1	3x95+3G50/3	12,7	46,3	49,2	4710	8550
0,6/1	3x120+3G70/3	14,5	49,9	52,9	5840	10800
0,6/1	3x150+3G70/3	16,7	55,4	58,4	7080	13500
0,6/1	3x185+3G95/3	17,6	62,6	66,5	8940	16650
0,6/1	3x240+3G120/3	20,6	67,8	70,2	11320	21600

0,6/1	4G1,5	1,5	14,6	15,6	300	180
0,6/1	4G2,5	1,9	16,7	17,7	400	300
0,6/1	4G4	2,4	18,2	19,2	500	480
0,6/1	4G6	2,9	19,6	20,6	620	720
0,6/1	4G10	3,8	23,0	24,9	890	1200
0,6/1	4G16	4,8	25,1	27,0	1170	1920
0,6/1	4G25	6,9	32,2	34,2	1900	3000
0,6/1	4G35	7,8	34,4	36,4	2340	4200
0,6/1	4G50	9,3	40,0	42,9	3250	6000
0,6/1	4G70	11,1	44,2	47,1	4180	8400
0,6/1	4G95	12,7	50,6	53,6	5500	11400
0,6/1	4G120	14,5	56,5	59,5	6950	14400
0,6/1	4G150	16,7	62,6	66,5	8570	18000
0,6/1	4G185	17,6	67,4	71,4	10160	22200

VOLTAGE kV	CORES X CROSS SECTION Nr × mm ²	CONDUCTOR Ø mm	MIN OVERALL Ø mm	MAX OVERALL Ø mm	APPROX WEIGHT kg/km	MAX TENSILE LOAD N
0,6/1	5G1,5	1,5	15,5	16,5	350	225
0,6/1	5G2,5	1,9	17,8	18,8	460	375
0,6/1	5G4	2,4	19,4	20,4	580	600
0,6/1	5G6	2,9	21,3	23,2	750	900
0,6/1	5G10	3,8	24,8	26,7	1060	1500
0,6/1	5G16	4,8	27,1	29,0	1410	2400
0,6/1	5G25	6,9	35,0	37,0	2290	3750
0,6/1	5G35	7,8	38,8	40,8	2940	5250
0,6/1	5G50	9,3	43,6	46,5	3940	7500
0,6/1	5G70	11,1	50,0	53,0	5300	10500

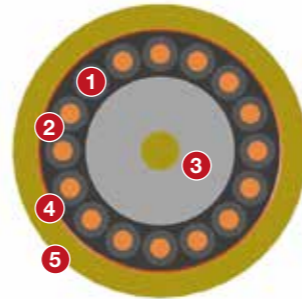
VOLTAGE kV	CORES X CROSS SECTION Nr × mm ²	MIN OVERALL Ø mm	MAX OVERALL Ø mm	APPROX WEIGHT kg/km	MAX TENSILE LOAD N
0,6/1	7G1.5	16,9	19,0	460	2000
0,6/1	12G1.5	23	25,1	805	2000
0,6/1	18G1.5	23,1	25,2	855	2000
0,6/1	24G1.5	26,5	28,6	1100	2000
0,6/1	30G1.5	29,6	32,8	1420	2000
0,6/1	36G1.5	29,8	32,8	1460	2000
0,6/1	7G2.5	18,6	20,7	590	2000
0,6/1	12G2.5	25,5	27,6	1050	2000
0,6/1	18G2.5	57,7	27,8	1130	2000
0,6/1	24G2.5	29,8	33,0	1560	2000
0,6/1	30G2.5	34,0	37,2	2000	2000
0,6/1	36G2.5	34,2	37,4	2070	2000
0,6/1	7G4	21,4	23,5	820	2000
0,6/1	12G4	29,8	33,0	1550	2000
0,6/1	18G4	30,0	33,2	1680	2000
0,6/1	20G6	39,0	42,5	2800	2400

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.

UTVFLEX® - SPR

Based on DIN VDE 0250 Part 814

Flexible cable designed for signalling mobile connections, under very high mechanical stresses (tensile strength and torsion), for heavy duty conditions, abrasion and crushing. The cable is typically used in cable winding reels for harbour cranes, container cranes, conveyors, handling machines, for vertical reeling application like for spreaders.



1 PHASE CONDUCTORS

MATERIAL: tinned copper, extremely flexible, better than Class 5 acc. to IEC 60228 and VDE 0295

2 INSULATION

MATERIAL: special compound developed to have higher tensile load, high stability and excellent thermal resistance

3 CENTRAL FILLER

MATERIAL: rubber compound on Aramide Kevlar® element (active element on cable load resistance and against whiplash)

CORE ARRANGEMENT

DESCRIPTION: made by untwisting technology in order to avoid internal stress in the core arrangement, with a laid up geometry for better torsion resistance

4 ANTI-TWISTING ELEMENT

DESCRIPTION: polyester braid between inner and outer sheath

5 INNER AND OUTER SHEATH

MATERIAL: halogen free polyurethane
COLOUR: yellow
CORES: black with printed numbers and Y/G or white with printed numbers

ELECTRICAL WORKING DATA

Nominal rated voltage U_0 / U	kV	0,6/1
Test voltage	kV	4
Max AC voltage	kV	0,7/1,2
Max DC voltage	kV	1,8
Current rating	A	According to VDE 0298 Part 4

THERMAL WORKING DATA

Maximum short circuit temperature	°C	200
Maximum working temp. on the conductor	°C	90
Minimum ambient temperature*	°C	Mobile condition: -40 Static condition: -50

* For ambient temperature up to -40 °C in mobile application the cable UTVFLEX®-K is available

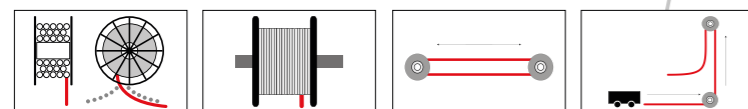
MECHANICAL WORKING DATA

Bending radius	mm	According to VDE 0298 Part 3
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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
Gas emission during combustion	According to IEC 60754-1

APPLICATION



UTVFLEX® - SPR

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
0,6/1	18G2,5	2,1	20,0	23,0	830	3350
0,6/1	24G2,5	2,1	25,0	28,0	1180	3800
0,6/1	36G2,5	2,1	29,0	32,0	1610	4700
0,6/1	37G2,5	2,1	30,0	33,0	1670	4775
0,6/1	44G2,5	2,1	32,0	35,0	1980	5300
0,6/1	54G2,5	2,1	37,0	40,0	2490	6050
0,6/1	56G2,5	2,1	38,0	41,0	2610	6200

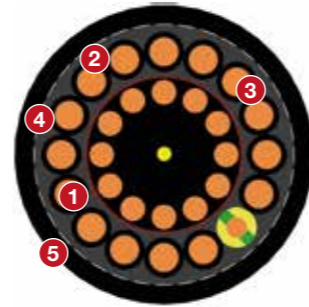
The diameter and weight shown is approximate, they may have some tolerance (to be confirmed when ordering). Other cross sections and colors available upon request.



UTVFLEX® - PUR HF

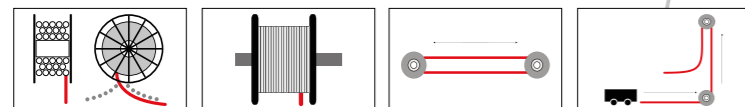
Based on DIN VDE 0250 Part 814

Flexible cable designed for power and signalling mobile connections, under severe mechanical stresses (tensile strength and torsion), for heavy duty conditions, abrasion and crushing. The cable is typically used in cable winding reels for harbour cranes, container cranes, conveyors, handling machines and mining and tunnelling equipment. The halogen free polyurethane sheath grants more lightness by retaining the mechanical properties and abrasion resistance.



- 1 PHASE CONDUCTORS**
MATERIAL: tinned copper
CONSTRUCTION: class 5 VDE 0295 (IEC 60228)
- 2 INSULATION**
MATERIAL: special compound, according to VDE 0207 Part 20
- CORES IDENTIFICATION**
According to DIN VDE 0293 Part 308 (HD 308 S2)
- LAYING-UP**
≤ 8 times the laying-up cores diameter
- 3 INNER SHEATH**
MATERIAL: halogen free polyurethane
- 4 ANTITWISTING ELEMENT**
MATERIAL: polyester braid between inner and outer sheath
- 5 OUTER SHEATH**
MATERIAL: halogen free polyurethane
COLOUR: standard black, cores white with printed numbers

APPLICATION



ELECTRICAL WORKING DATA

Nominal rated voltage U_0 / U	kV	0,6/1
Test voltage	kV	4
Max AC voltage	kV	0,7/1,2
Max DC voltage	kV	1,8
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: -40 Static condition: -50

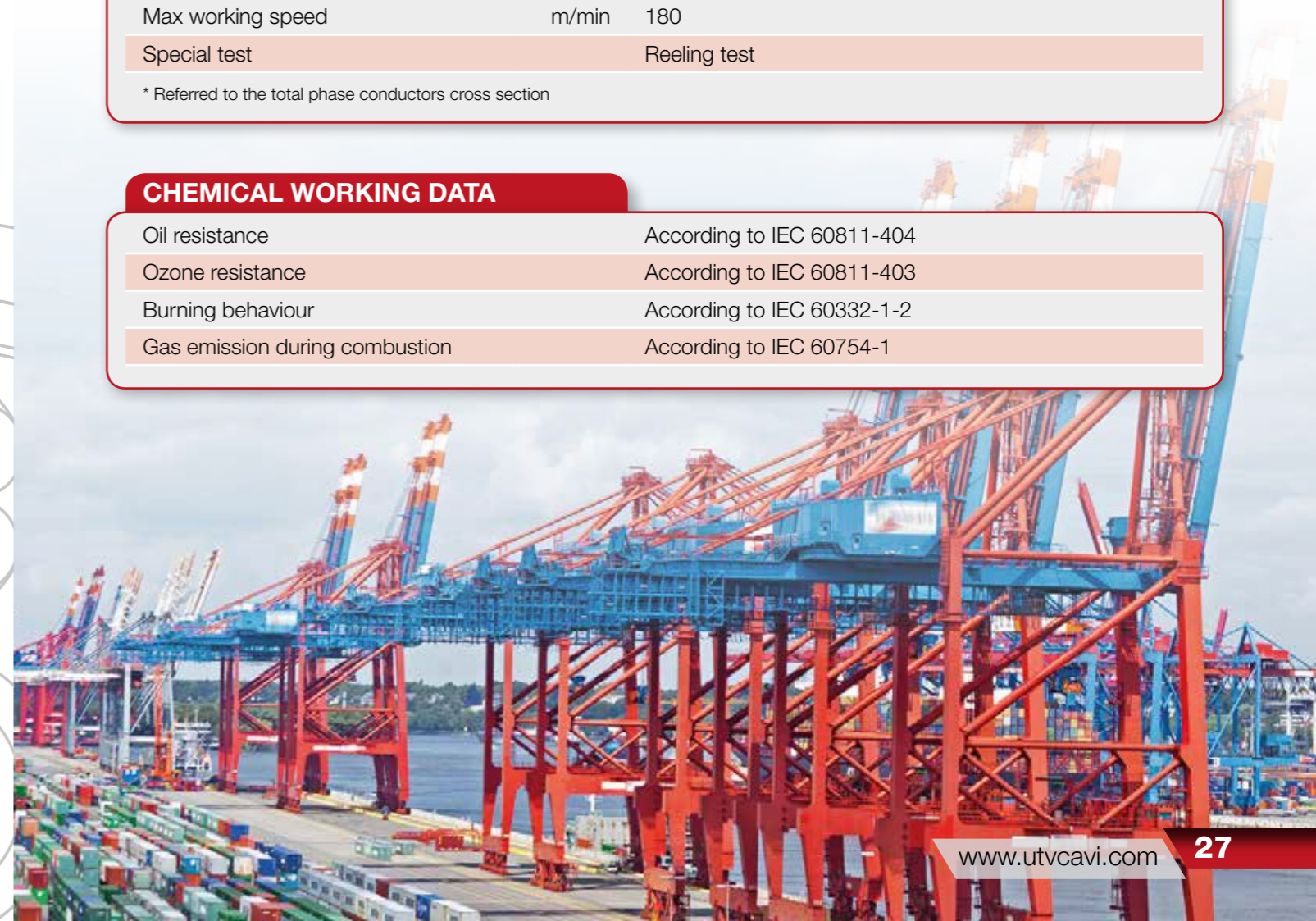
MECHANICAL WORKING DATA

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	180
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
Gas emission during combustion	According to IEC 60754-1



UTVFLEX® - PUR HF

VOLTAGE	CORES X CROSS SECTION	CONDUCTOR Ø	MIN OVERALL Ø	MAX OVERALL Ø	APPROX WEIGHT	MAX TENSILE LOAD
kV	Nr × mm ²	mm	mm	mm	kg/km	N
0,6/1	4G4	2,4	16,5	16,9	380	480
0,6/1	4G6	2,9	18,0	18,4	490	720
0,6/1	4G10	3,8	21,3	21,7	720	1200
0,6/1	4G16	4,8	23,8	24,2	990	1920
0,6/1	4G25	6,9	30,3	31,1	1610	3000
0,6/1	4G35	7,8	33,3	34,1	2090	4200
0,6/1	4G50	9,3	37,9	38,7	2830	6000
0,6/1	4G70	11,1	42,2	43,0	3720	8400
0,6/1	4G95	12,7	47,1	47,9	4770	11400
0,6/1	4G120	14,5	52,4	53,3	6040	14400
0,6/1	4G150	16,7	58,7	59,6	7520	18000

VOLTAGE	CORES X CROSS SECTION	CONDUCTOR Ø	MIN OVERALL Ø	MAX OVERALL Ø	APPROX WEIGHT	MAX TENSILE LOAD
kV	Nr × mm ²	mm	mm	mm	kg/km	N
0,6/1	5G4	2,4	17,8	18,2	460	600
0,6/1	5G6	2,9	19,4	19,8	590	900
0,6/1	5G10	3,8	23,1	23,5	870	1500
0,6/1	5G16	4,8	25,8	26,2	1200	2400
0,6/1	5G25	6,9	33,1	33,9	1970	3750
0,6/1	5G35	7,8	36,3	37,1	2560	5250

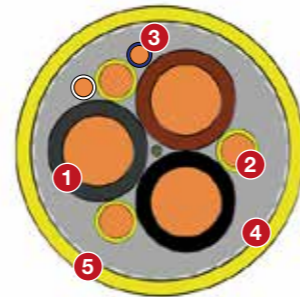
0,6/1	4G1,5	1,5	11,5	11,9	170	2180
0,6/1	5G1,5	1,5	12,1	12,5	190	2225
0,6/1	7G1,5	1,5	13,9	14,3	260	2315
0,6/1	12G1,5	1,5	17,7	18,1	450	2540
0,6/1	18G1,5	1,5	18,1	18,5	480	2810
0,6/1	24G1,5	1,5	20,7	21,1	630	3080
0,6/1	30G1,5	1,5	22,7	23,1	770	3350
0,6/1	36G1,5	1,5	23,1	23,5	800	3620
0,6/1	42G1,5	1,5	24,6	25,0	910	3890

0,6/1	4G2,5	1,9	12,7	13,1	220	2300
0,6/1	5G2,5	1,9	13,5	13,9	260	2375
0,6/1	7G2,5	1,9	15,6	16,0	360	2525
0,6/1	12G2,5	1,9	20,2	20,6	590	2900
0,6/1	18G2,5	1,9	20,6	21,0	660	3350
0,6/1	24G2,5	1,9	23,8	24,2	910	3800
0,6/1	30G2,5	1,9	26,2	26,6	1120	4250
0,6/1	36G2,5	1,9	26,6	27,0	1170	4700
0,6/1	42G2,5	1,9	29,1	29,5	1390	5150

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.

UTVFLEX® - PUR HF

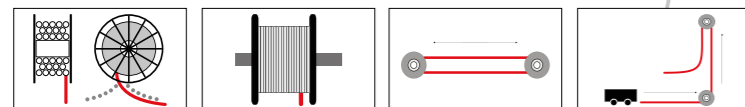
Power supply to mobile equipment with high risk of mechanical damage in mining and tunneling.
Maximum speed 120 m/min.



- 1 PHASE CONDUCTORS**
MATERIAL: Plain copper
CONSTRUCTION: flexible class 5 IEC 60228
INSULATION: XLPE special compound, Brown-Black-Grey
- 2 EARTH CORES**
MATERIAL: Plain copper
CONSTRUCTION: flexible class 5 IEC 60228
INSULATION: XLPE special compound, Yellow/Green
- 3 CONTROL CORES (IF ANY)**
MATERIAL: Tinned copper
CONSTRUCTION: Class. 6 according to IEC 60228
INSULATION: Thin thickness made of special tecnopolymer.
Colour: white with printed number
- 4 ANTITWISTING ELEMENT**
MATERIAL: Synthetic mesh
- 5 OUTER SHEAT**
MATERIAL: HFFR* thermoplastic polyurethane compound, abrasion, tear, chemical & hydrolysis resistant
COLOUR: Yellow

*Halogen free and flame retardant

APPLICATION



ELECTRICAL WORKING DATA

Nominal rated voltage U_0 / U	kV	0,6/1
Test voltage	kV	3,5
Max AC voltage	kV	1,2
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	Flex condition: -30 Fixed condiction: -40

MECHANICAL WORKING DATA

Bending radius	mm	According to VDE 0298 Part 3
Maximum tensile load*	N/mm ²	30
Max working speed	m/min	180
Special test		Reeling test

* Referred to the total phase conductors cross section



UTVFLEX® - PUR HF

NUMBER OF CORES AND NOMINAL CROSS SECTION Nr × mm ²	MAIN CONDUCTORS COPPER Ø mm	PROTECTIVE EARTH COND. COPPER Ø mm	MIN OVERALL Ø mm	MAX OVERALL Ø mm	NET WEIGHT APPROX kg/km	MAX TENSILE LOAD N
3×25+3G6	6,5	3,0	24,5	26,5	1200	2250
3×35+3G6	7,5	3,0	26,0	28,5	1480	3150
3×50+3G10	9,1	3,9	30,0	32,5	2080	4500
3×70+3G16	10,8	5,1	34,0	37,0	2980	6300
3×95+3G16	12,1	5,1	37,5	40,5	3620	8550
3×120+3G25	14,3	6,5	42,5	45,5	4770	10800
3×150+3G25	16,1	6,5	47,5	50,5	5800	13500
3×185+3G35	17,5	7,5	52,0	55,0	7050	16650
3×240+3G50	19,9	9,1	58,0	61,0	9160	21600

NUMBER OF CORES AND NOMINAL CROSS SECTION Nr × mm ²	MAIN CONDUCTORS COPPER Ø mm	PROTECTIVE EARTH COND. COPPER Ø mm	CONTROL CONDUCTORS INSULATED Ø mm	MIN OVERALL Ø mm	MAX OVERALL Ø mm	NET WEIGHT APPROX kg/km	MAX TENSILE LOAD N
3×25+3G6+2×1.5	6,5	3,0	2,6	25,5	28,0	1300	2250
3×35+3G6+2×1.5	7,5	3,0	2,6	26,5	29,0	1560	3150
3×50+3G10+2×1.5	9,1	3,9	2,6	30,0	32,5	2110	4500
3×70+3G16+2×1.5	10,8	5,1	2,6	34,0	37,0	3010	6300
3×95+3G16+2×1.5	12,1	5,1	2,6	37,5	40,5	3650	8550
3×120+3G25+2×1.5	14,3	6,5	2,6	42,5	45,5	4800	10800
3×150+3G25+2×1.5	16,1	6,5	2,6	47,5	50,5	5830	13500
3×185+3G35+2×1.5	17,5	7,5	2,6	52,0	55,0	7080	16650
3×240+3G50+2×1.5	19,9	9,1	2,6	58,0	61,0	9190	21600

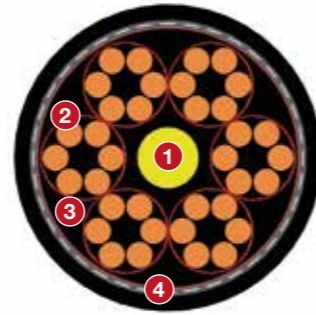
The diameter and weight shown is approximate, they may have some tolerance (to be confirmed when ordering).
Other cross sections and colors available upon request.



UTVFLEX® - BASKET 0,6/1KV

3GRDGÖU – WITHOUT BALLS ROPES

Control cable specifically designed for gravity-feed collector baskets of latest generation high-speed container cranes. In order to avoid cable damages, the cable must be installed into the basket in counter-clockwise direction, free of torsion.



- 1 CENTRAL SUPPORT ELEMENT**
MATERIAL: Made of aramidic yarns
To be used as support element with a minimum tensile strength of 10 kN
- 2 PHASE CONDUCTOR**
MATERIAL: Tinned copper conductor, specially designed for mobile application
CONSTRUCTION: flexible cl. 5 IEC 60228
- 3 INSULATION**
MATERIAL: EPR compound better than 3GI3, specially developed compound with improved mechanical characteristics
- 4 SHEATH**
MATERIAL: Special CPS compound, high density specially developed compound UV resistant, lubricants resistant

ELECTRICAL WORKING DATA

Nominal rated voltage U_0 / U	kV	0,6/1
Max AC voltage	kV	3,5
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: -25 Static condition: -40

* Upon request UTVFLEX® BASKET 0,6/1KV special version for low temperature (up to -40°C in mobile application)

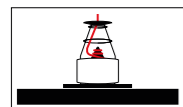
MECHANICAL WORKING DATA

Bending radius	mm	According to VDE 0298 Part 3
Maximum tensile load	Up to 15N/mm ²	with minimum 4000N
Max working speed on systems to basket	Up to m/min	160

CHEMICAL WORKING DATA

Oil resistance	According to IEC 60811-404
Weather resistance	Unrestricted use outdoor and indoor, UV resistant, moisture resistant

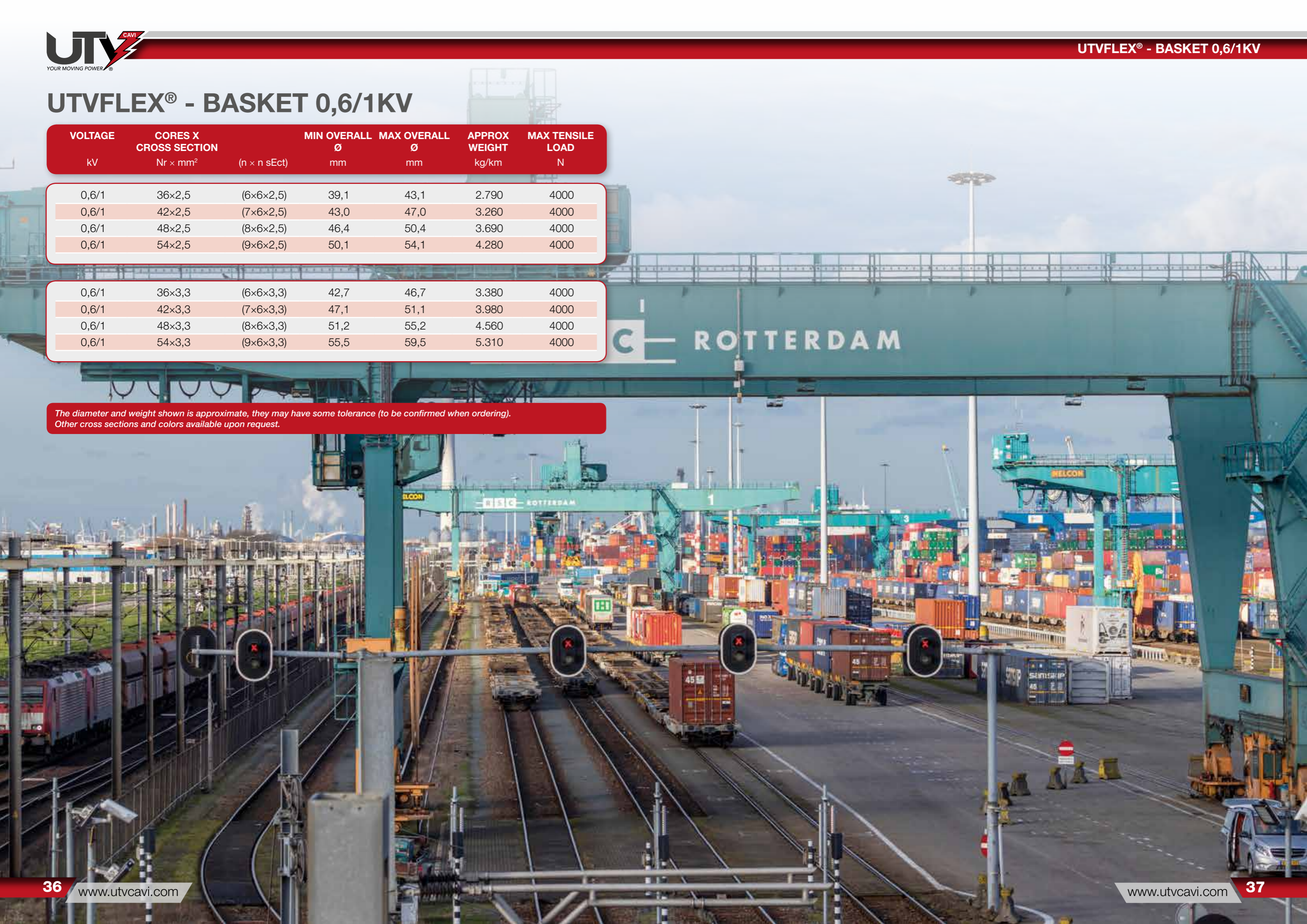
APPLICATION



UTVFLEX® - BASKET 0,6/1KV

VOLTAGE kV	CORES X CROSS SECTION Nr x mm ²	MIN OVERALL Ø mm	MAX OVERALL Ø mm	APPROX WEIGHT kg/km	MAX TENSILE LOAD N	
0,6/1	36x2,5	(6x6x2,5)	39,1	43,1	2.790	4000
0,6/1	42x2,5	(7x6x2,5)	43,0	47,0	3.260	4000
0,6/1	48x2,5	(8x6x2,5)	46,4	50,4	3.690	4000
0,6/1	54x2,5	(9x6x2,5)	50,1	54,1	4.280	4000
0,6/1	36x3,3	(6x6x3,3)	42,7	46,7	3.380	4000
0,6/1	42x3,3	(7x6x3,3)	47,1	51,1	3.980	4000
0,6/1	48x3,3	(8x6x3,3)	51,2	55,2	4.560	4000
0,6/1	54x3,3	(9x6x3,3)	55,5	59,5	5.310	4000

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.

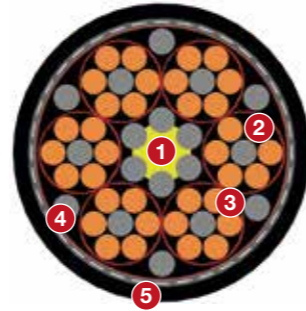


UTVFLEX® BASKET

YSLTOE-J

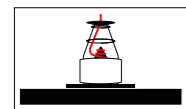
Based on DIN VDE 0250 Part 405

Control cable specifically designed for gravity-feed collector baskets of latest generation high-speed container cranes. In order to avoid cable damages, the cable must be installed into the basket in counter-clockwise direction, free of torsion. The basket diameter has to be bigger than $30 \times D$ (D = cable diameter) and the cable has to be hooked on the top with a proper system (cable mesh grip or 2,5 cable loops on anchoring drum).



- 1 CENTRAL SUPPORT ELEMENT**
Lead balls ropes stranded around, KEVLAR® supports
- 2 PHASE CONDUCTORS**
MATERIAL: bare flexible copper
CONSTRUCTION: class 5 VDE 0295 (IEC 60228)
- 3 INSULATION**
MATERIAL: Special thermoplastic compound
- 4 CORE ASSEMBLY**
6 cores bundles, with central lead ball rope, stranded around the central support with interstitial lead ball ropes
- 5 SHEATH**
MATERIAL: halogen free polyurethane
COLOUR: black

APPLICATION



ELECTRICAL WORKING DATA

Nominal rated voltage U_0 / U	V	300/500
Test voltage	kV	2
Max AC voltage	V	318/550
Max DC voltage	V	825
Current rating	A	According to VDE 0298 Part 4

THERMAL WORKING DATA

Maximum short circuit temperature	°C	150
Maximum working temp. on the conductor	°C	70
Minimum ambient temperature	°C	-20
Upon request UTVFLEX® BASKET 0,6/1kV special version for low temperature (up to -40°C in mobile application)		

MECHANICAL WORKING DATA

Bending radius	mm	According to VDE 0298 Part 3
Maximum tensile load	N	See table below
Max working speed on systems to basket	m/min	160

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

VOLTAGE	CORES X CROSS SECTION	CONDUCTOR Ø	MIN OVERALL Ø	MAX OVERALL Ø	APPROX WEIGHT	MAX TENSILE LOAD
V	Nr x mm ²	mm	mm	mm	kg/km	N
300/500	48G1	1,3	32,4	33	2460	13000
300/500	30G2,5	2	32,1	32,7	2060	13000
300/500	36G2,5	2	35,8	36,4	2670	13000
300/500	42G2,5	2	39,5	40,2	3330	13000
300/500	48G2,5	2	42,7	43,6	4260	13000

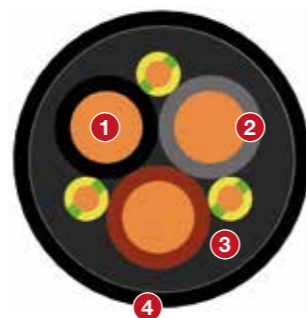
The diameter and weight shown is approximate, they may have some tolerance (to be confirmed when ordering). Other cross sections and colors available upon request.

UTVFLEX® FESTOON

(N)GRDÖU-O/J

Based on DIN VDE 0250 Part 814

Power and control cable for festooning systems and connecting moveable parts of container cranes, industrial machines, material handling equipment, etc., under high mechanical stress and frequent bending.



1 PHASE CONDUCTORS

MATERIAL: bare flexible copper
CONSTRUCTION: class 5 VDE 0295 (IEC 60228)

2 INSULATION

MATERIAL: 3GI3 quality rubber compound, according to VDE 0270 Part 20

SHIELD (WHERE APPLICABLE)

braid screen of tinned copper wires, approx coverage 80%

3 INNER SHEATH

MATERIAL: rubber compound EPR based, GM1b quality according to VDE 0270 Part 21

4 OUTER SHEATH

MATERIAL: special rubber compound at least 5GM3 quality, according to VDE 0270 Part 21
COLOUR: black

ELECTRICAL WORKING DATA

Nominal rated voltage U_0 / U	kV	0,6/1
Test voltage	kV	4
Max AC voltage	kV	0,7/1,2
Max DC voltage	kV	1,8
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

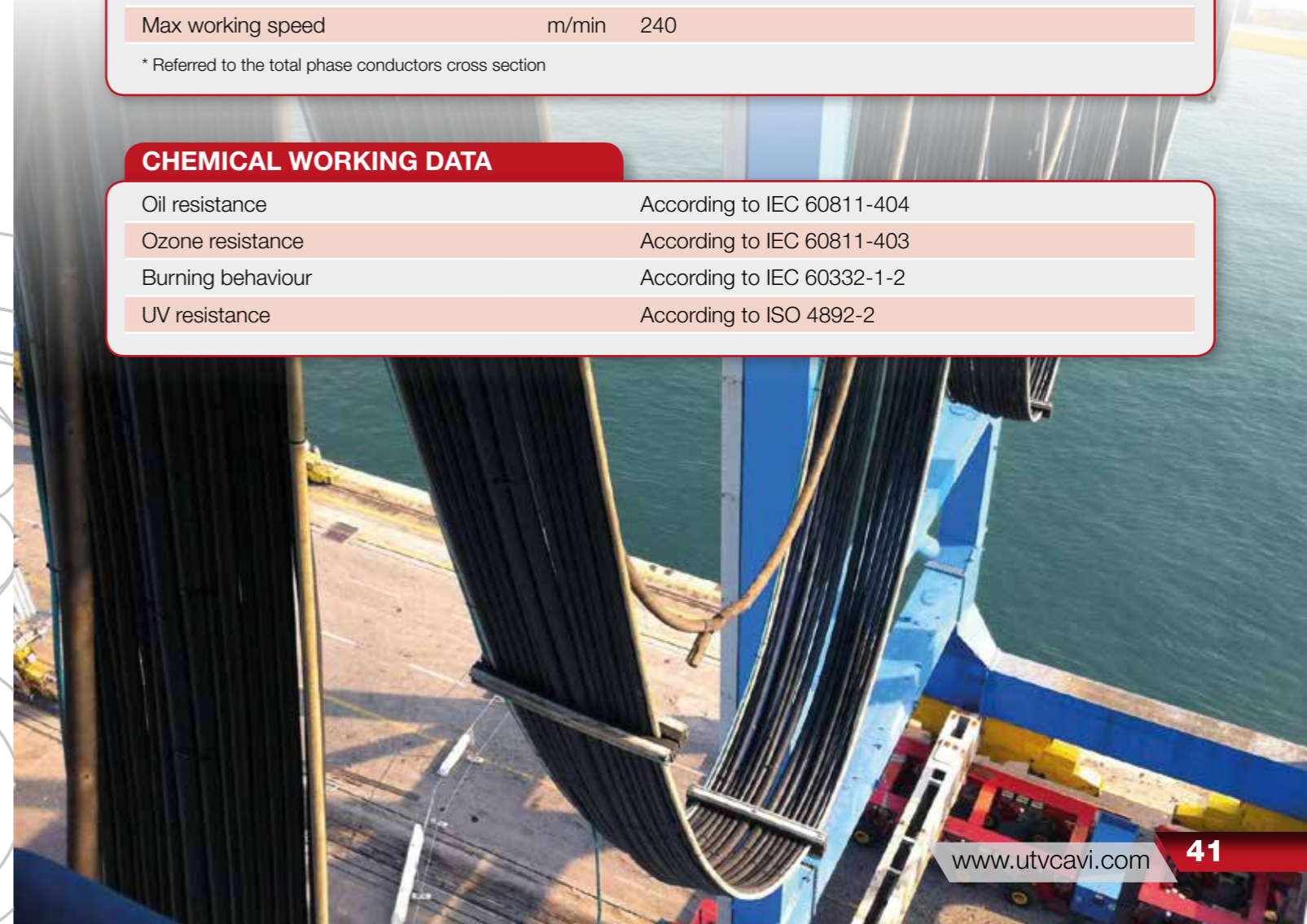
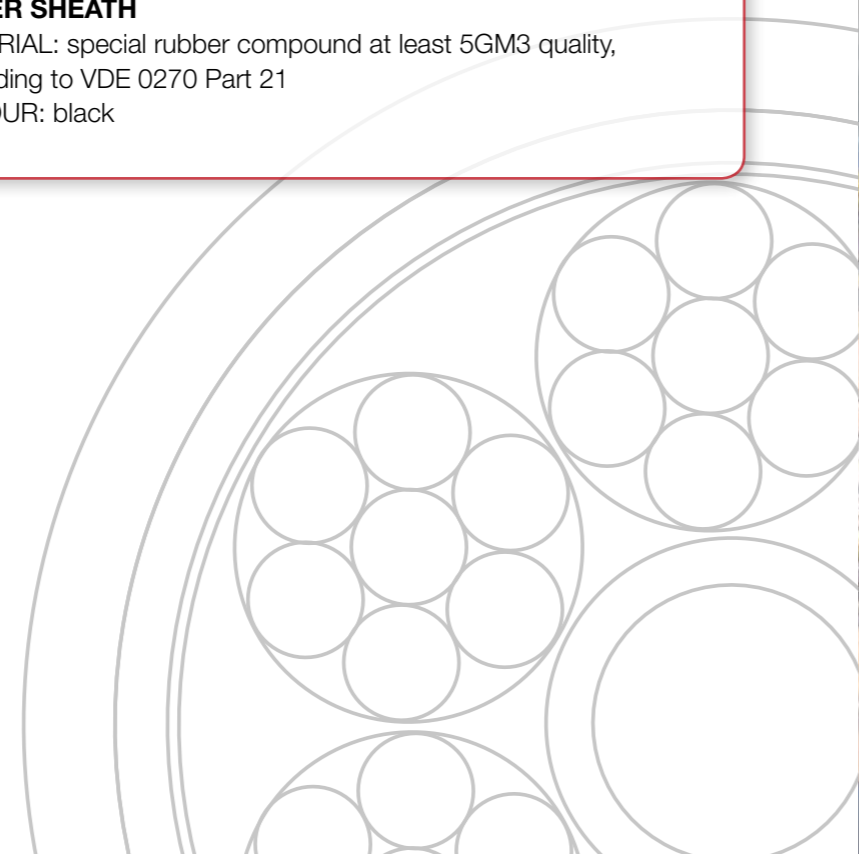
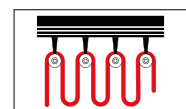
Bending radius	mm	According to VDE 0298 Part 3
Maximum torsional stress	°/m	±90
Maximum tensile load*	N/mm ²	15
Max working speed	m/min	240

* 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

APPLICATION



UTVFLEX® FESTOON

POWER CABLES

VOLTAGE kV	CORES X CROSS SECTION Nr x mm ²	CONDUCTOR Ø mm	MIN OVERALL Ø mm	MAX OVERALL Ø mm	APPROX WEIGHT kg/km	MAX TENSILE LOAD N
0,6/1	1x25	6,1	12,0	12,7	350	375
0,6/1	1x35	7,2	13,9	14,6	480	525
0,6/1	1x50	8,9	16,0	16,7	650	750
0,6/1	1x70	10,6	17,7	18,4	870	1050
0,6/1	1x95	12,5	20,3	21,3	1140	1425
0,6/1	1x120	14,2	22,0	23	1390	1800
0,6/1	1x150	15,9	24,1	25,1	1750	2250
0,6/1	1x185	17,7	26,9	27,9	2150	2775
0,6/1	3x35 + 3G16/3	7,2	26,6	27,6	1700	1575
0,6/1	3x50 + 3G25/3	8,9	31,9	33	2480	2250
0,6/1	3x70 + 3G50/3	10,6	35,8	36,9	3360	3150
0,6/1	4x4	2,4	14,1	14,8	360	240
0,6/1	4x6	2,9	15,5	16,2	460	360
0,6/1	4x10	3,8	18,9	19,6	720	600
0,6/1	4x16	4,9	21,8	22,5	1020	960
0,6/1	4x25	6,1	26,7	27,7	1550	1500
0,6/1	4x35	7,2	29,2	30,3	1990	2100
0,6/1	4x50	8,9	35,7	36,8	2920	3000
0,6/1	5x4	2,4	15,3	16	440	300
0,6/1	5x6	2,9	17,3	18	600	450
0,6/1	5x10	3,8	20,6	21,6	910	750
0,6/1	5x16	4,9	23,8	24,8	1300	1200

CONTROL CABLES

VOLTAGE kV	CORES X CROSS SECTION Nr x mm ²	CONDUCTOR Ø mm	MIN OVERALL Ø mm	MAX OVERALL Ø mm	APPROX WEIGHT kg/km	MAX TENSILE LOAD N
0,6/1	12G1,5	1,5	19,8	20,8	610	270
0,6/1	18G1,5	1,5	19,9	20,9	650	405
0,6/1	24G1,5	1,5	23,3	24,3	880	540
0,6/1	30G1,5	1,5	26,6	27,6	1160	675
0,6/1	36G1,5	1,5	27,6	28,6	1280	810
0,6/1	12G2,5	1,9	23,3	24,3	860	450
0,6/1	18G2,5	1,9	23,4	24,4	940	675
0,6/1	24G2,5	1,9	28,2	29,2	1330	900
0,6/1	30G2,5	1,9	32,4	33,5	1760	1125
0,6/1	36G2,5	1,9	33,4	34,5	1910	1350

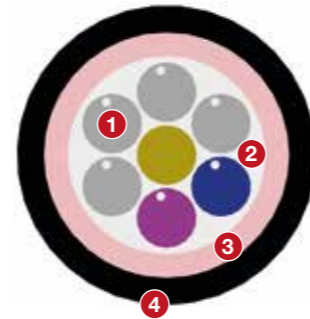
SCREENED CABLES

VOLTAGE kV	CORES X CROSS SECTION Nr x mm ²	CONDUCTOR Ø mm	MIN OVERALL Ø mm	MAX OVERALL Ø mm	APPROX WEIGHT kg/km	MAX TENSILE LOAD N
0,6/1	3x(2x0,5)c	0,8	21,1	22,2	590	90
0,6/1	3x(2x1)c	1,5	25,6	26,7	880	90

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.

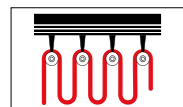
UTVFLEX® FESTOON-FO

Fiber optic very flexible cable for festooning systems and connecting moveable parts of container cranes, industrial machines, material handling equipment, etc., under high mechanical stress and frequent bending.



- 1 FIBRE**
NUMBER OF LOOSE TUBES: 6
ARRANGEMENT: six loose tubes laid in one layer around a glass-fibre reinforced element
- 2 INNER SHEATH**
MATERIAL: special rubber compound
- 3 ANTITWISTING ELEMENT**
MATERIAL: polyester braid between inner and outer sheath
- 4 OUTER SHEATH**
MATERIAL: special rubber compound at least 5GM3 quality
COLOUR: black

APPLICATION



THERMAL WORKING DATA

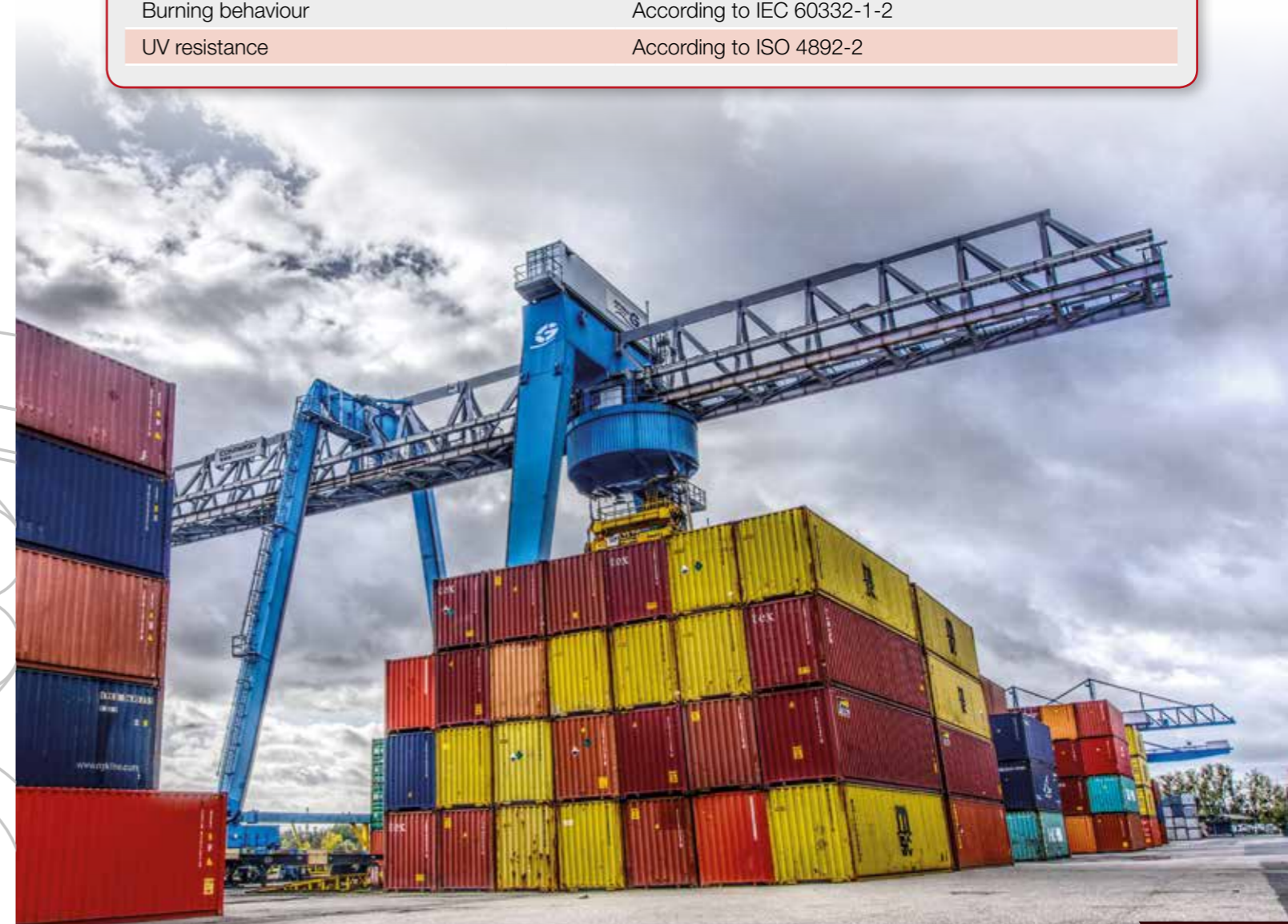
Minimum ambient temperature	°C	Mobile condition: -35 Static condition: -50
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MECHANICAL WORKING DATA

Min. bending radius	mm	200
Min. distance with S-type directional changes	mm	400
Maximum torsional stress	°/m	± 50
Maximum tensile load	N	1200
Max working speed	m/min	240

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



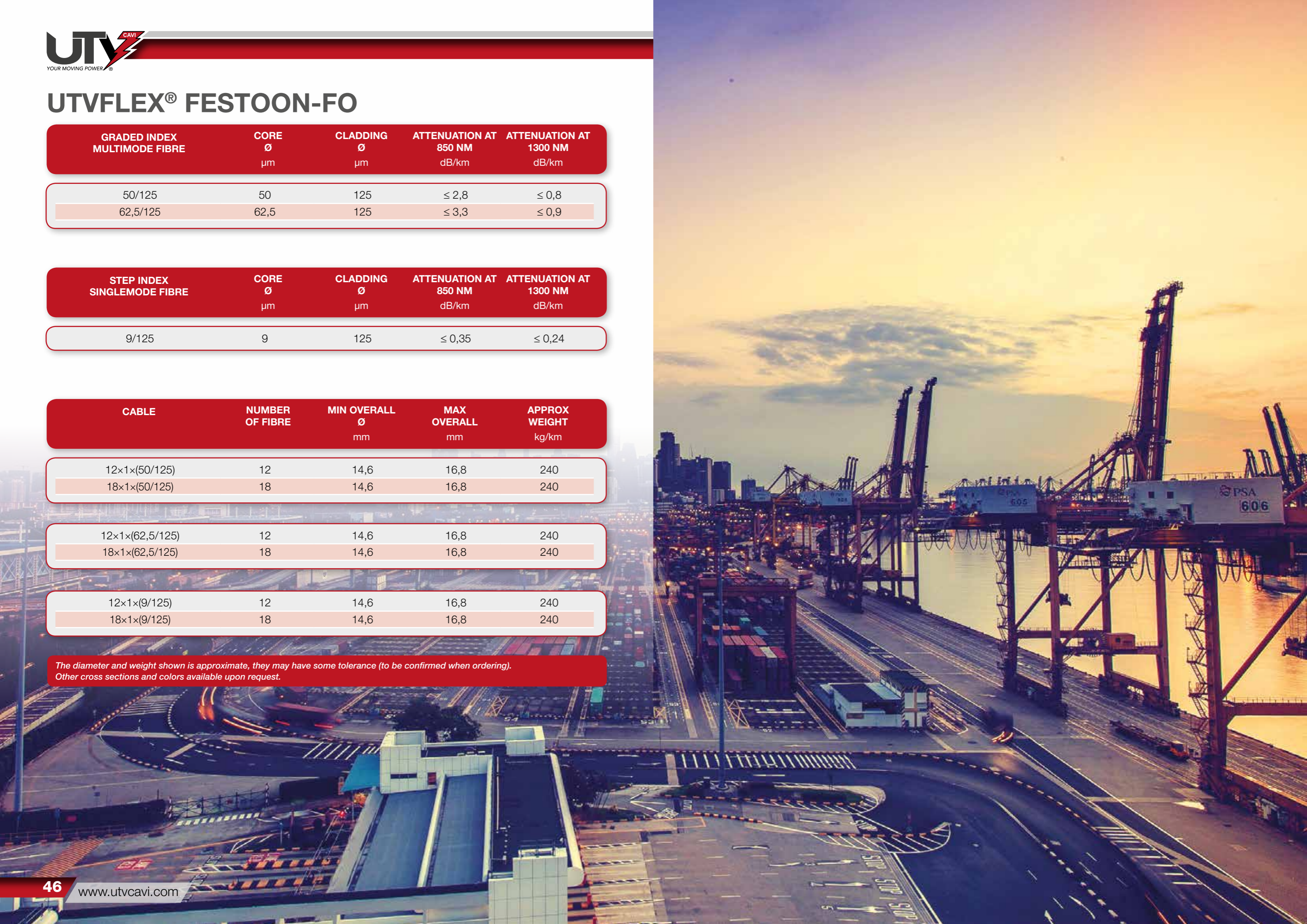
UTVFLEX® FESTOON-FO

GRADED INDEX MULTIMODE FIBRE	CORE Ø µm	CLADDING Ø µm	ATTENUATION AT 850 NM dB/km	ATTENUATION AT 1300 NM dB/km
50/125	50	125	≤ 2,8	≤ 0,8
62,5/125	62,5	125	≤ 3,3	≤ 0,9

STEP INDEX SINGLEMODE FIBRE	CORE Ø µm	CLADDING Ø µm	ATTENUATION AT 850 NM dB/km	ATTENUATION AT 1300 NM dB/km
9/125	9	125	≤ 0,35	≤ 0,24

CABLE	NUMBER OF FIBRE	MIN OVERALL Ø mm	MAX OVERALL mm	APPROX WEIGHT kg/km
12x1x(50/125)	12	14,6	16,8	240
18x1x(50/125)	18	14,6	16,8	240
12x1x(62,5/125)	12	14,6	16,8	240
18x1x(62,5/125)	18	14,6	16,8	240
12x1x(9/125)	12	14,6	16,8	240
18x1x(9/125)	18	14,6	16,8	240

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.

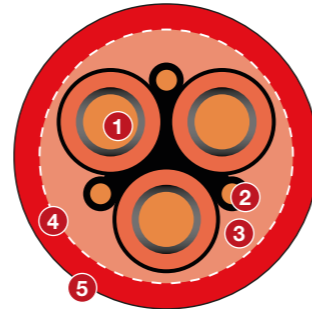


UTVFLEX® - R MT

(N) TSCGEWÖU

Based on DIN VDE 0250 Part 813

Flexible reeling cable (UTVFLEX® R/MT) 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

CENTRAL FILLER

MATERIAL: semiconductive compound on textile polyester support

CORES ASSEMBLY

ASSEMBLY: twisted cores with earth conductor split into 3 parts
SEPARATOR ON THE TWISTED ASSEMBLY: semiconductive tape wound on the twisted cores

3 INNER SHEATH

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

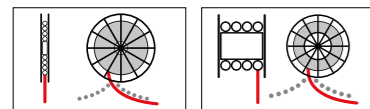
4 ANTITWISTING ELEMENT

MATERIAL: polyester braid between inner and outer sheath

5 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	120

* Referred to the total phase conductors cross section
 Upon request it's available the RF version with improved mechanical characteristics designed for ASC's and ARMG's for speed up to 240 m/min

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

UTVFLEX® - R MT

VOLTAGE	CORES X CROSS SECTION	CONDUCTOR Ø	MIN OVERALL Ø	MAX OVERALL Ø	APPROX WEIGHT	MAX TENSILE LOAD
kV	Nr × mm ²	mm	mm	mm	kg/km	N
3,6/6	3×25 + 3×25/3	6,9	39,5	40,8	2390	2250
3,6/6	3×35 + 3×25/3	7,8	43,2	45,1	2930	3150
3,6/6	3×50 + 3×25/3	9,3	46,3	48,2	3540	4500
3,6/6	3×70 + 3×35/3	11,1	50,1	52,1	4450	6300
3,6/6	3×95 + 3×50/3	12,7	56,1	58,1	5610	8550
3,6/6	3×120 + 3×70/3	14,5	59,9	61,9	6800	10800
3,6/6	3×150 + 3×70/3	16,7	66,3	68,8	8300	13500
3,6/6	3×185 + 3×95/3	17,6	68,2	70,7	9440	16650
3,6/6	3×240 + 3×120/3	20,05	70,0	74,0	11650	21600

6/10	3×25 + 3×25/3	6,9	39,5	40,8	2390	2250
6/10	3×35 + 3×25/3	7,8	43,2	45,1	2930	3150
6/10	3×50 + 3×25/3	9,3	46,3	48,2	3540	4500
6/10	3×70 + 3×35/3	11,1	50,1	52,1	4450	6300
6/10	3×95 + 3×50/3	12,7	56,1	58,1	5670	8550
6/10	3×120 + 3×70/3	14,5	59,9	61,9	6860	10800
6/10	3×150 + 3×70/3	16,7	66,3	68,8	8360	13500
6/10	3×185 + 3×95/3	17,6	68,2	70,7	9540	16650
6/10	3×240 + 3×120/3	20,05	72,4	76,4	12080	21600

VOLTAGE	CORES X CROSS SECTION	CONDUCTOR Ø	MIN OVERALL Ø	MAX OVERALL Ø	APPROX WEIGHT	MAX TENSILE LOAD
kV	Nr × mm ²	mm	mm	mm	kg/km	N
8,7/15	3×25 + 3×25/3	6,9	45	46,9	2870	2250
8,7/15	3×35 + 3×25/3	7,8	46,5	48,4	3220	3150
8,7/15	3×50 + 3×25/3	9,3	49,7	51,7	3850	4500
8,7/15	3×70 + 3×35/3	11,1	55,3	57,3	5020	6300
8,7/15	3×95 + 3×50/3	12,7	58,7	60,7	5900	8550
8,7/15	3×120 + 3×70/3	14,5	64,2	66,7	7400	10800
8,7/15	3×150 + 3×70/3	16,7	68,8	71,4	8630	13500
8,7/15	3×185 + 3×95/3	17,6	70,9	73,5	9790	16650
8,7/15	3×240 + 3×120/3	20,05	75,4	79,4	12550	21600

12/20	3×25 + 3×25/3	6,9	46,7	48,6	3090	2250
12/20	3×35 + 3×25/3	7,8	49,1	51,1	3470	3150
12/20	3×50 + 3×25/3	9,3	54	56	4330	4500
12/20	3×70 + 3×35/3	11,1	57,8	59,8	5330	6300
12/20	3×95 + 3×50/3	12,7	61,1	63,6	6210	8550
12/20	3×120 + 3×70/3	14,5	66,7	69,2	7760	10800
12/20	3×150 + 3×70/3	16,7	71,3	73,9	9010	13500
12/20	3×185 + 3×95/3	17,6	73,7	77,8	10640	16650
12/20	3×240 + 3×120/3	20,05	78,8	83,8	13160	21600

UTVFLEX® - RS MT (smaller version)

VOLTAGE	CORES X CROSS SECTION	CONDUCTOR Ø	MIN OVERALL Ø	MAX OVERALL Ø	APPROX WEIGHT	MAX TENSILE LOAD
kV	Nr × mm ²	mm	mm	mm	kg/km	N
3,6/6	3×25 + 3×25/3	6,6	37,9	40,9	2360	2250
3,6/6	3×35 + 3×25/3	8	39,6	42,6	2730	3150
3,6/6	3×50 + 3×25/3	9,3	42,8	45,8	3350	4500
3,6/6	3×70 + 3×35/3	11,2	46,9	49,9	4290	6300
3,6/6	3×95 + 3×50/3	13	51,1	55,1	5320	8550
3,6/6	3×120 + 3×70/3	15	55,8	59,8	6690	10800
3,6/6	3×150 + 3×70/3	16,9	61,1	65,1	7870	13500
3,6/6	3×185 + 3×95/3	18,3	65,3	69,3	9360	16650
3,6/6	3×240 + 3×120/3	20,5	70,0	74,0	11650	21600

6/10	3×25 + 3×25/3	6,6	38,7	41,7	2410	2250
6/10	3×35 + 3×25/3	8	40,8	43,8	2810	3150
6/10	3×50 + 3×25/3	9,3	43,7	46,7	3430	4500
6/10	3×70 + 3×35/3	11,2	47,8	50,8	4380	6300
6/10	3×95 + 3×50/3	13	52	56	5410	8550
6/10	3×120 + 3×70/3	15	56,3	60,3	6750	10800
6/10	3×150 + 3×70/3	16,9	62	66	7980	13500
6/10	3×185 + 3×95/3	18,3	65,9	69,9	9430	16650
6/10	3×240 + 3×120/3	20,5	72,4	76,4	12080	21600

VOLTAGE	CORES X CROSS SECTION	CONDUCTOR Ø	MIN OVERALL Ø	MAX OVERALL Ø	APPROX WEIGHT	MAX TENSILE LOAD
kV	Nr × mm ²	mm	mm	mm	kg/km	N
8,7/15	3×25 + 3×25/3	6,6	40,5	43,5	2590	2250
8,7/15	3×35 + 3×25/3	8	42,6	45,6	3000	3150
8,7/15	3×50 + 3×25/3	9,3	45,8	48,8	3640	4500
8,7/15	3×70 + 3×35/3	11,2	50,2	54,2	4690	6300
8,7/15	3×95 + 3×50/3	13	54,5	58,5	5710	8550
8,7/15	3×120 + 3×70/3	15	60,5	64,5	7290	10800
8,7/15	3×150 + 3×70/3	16,9	64,6	68,6	8330	13500
8,7/15	3×185 + 3×95/3	18,3	68	72	9760	16650
8,7/15	3×240 + 3×120/3	20,5	75,4	79,4	12550	21600

12/20	3×25 + 3×25/3	6,6	45	48	2990	2250
12/20	3×35 + 3×25/3	8	47	50	3370	3150
12/20	3×50 + 3×25/3	9,3	50	54	4110	4500
12/20	3×70 + 3×35/3	11,2	54,1	58,1	5120	6300
12/20	3×95 + 3×50/3	13	58	62	6120	8550
12/20	3×120 + 3×70/3	15	64,3	68,3	7810	10800
12/20	3×150 + 3×70/3	16,9	68,4	72,4	8870	13500
12/20	3×185 + 3×95/3	18,3	73,7	77,7	10640	16650
12/20	3×240 + 3×120/3	20,5	78,8	83,8	13160	21600

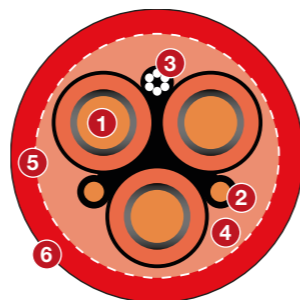
The diameter and weight shown is approximate, they may have some tolerance (to be confirmed when ordering). Other cross sections and colors available upon request.

UTVFLEX® - R MT FO

(N) TSCGEWÖU

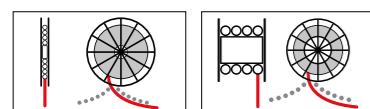
Based on DIN VDE 0250 Part 813

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 × mm ²	mm	mm	mm	kg/km	N
3,6/6	3×25 + 2×25/2 + FO	6,9	43,2	45,1	2940	2250
3,6/6	3×35 + 2×25/2 + FO	7,8	46,5	48,4	3500	3150
3,6/6	3×50 + 2×25/2 + FO	9,3	49,7	51,7	4190	4500
3,6/6	3×70 + 2×35/2 + FO	11,1	53,5	55,8	5210	6300
3,6/6	3×95 + 2×50/2 + FO	12,7	59,6	61,9	6490	8550
3,6/6	3×120 + 2×70/2 + FO	14,5	63,4	66	7770	10800
3,6/6	3×150 + 2×70/2 + FO	16,7	69,9	72,6	9380	13500
3,6/6	3×185 + 2×95/2 + FO	17,6	73,1	77,2	9530	16650
3,6/6	3×240 + 2×120/2 + FO	20,05	77	81,2	11970	21600

6/10	3×25 + 2×25/2 + FO	6,9	43,2	45,1	2940	2250
6/10	3×35 + 2×25/2 + FO	7,8	46,5	48,4	3500	3150
6/10	3×50 + 2×25/2 + FO	9,3	49,7	51,7	4190	4500
6/10	3×70 + 2×35/2 + FO	11,1	53,5	55,8	5210	6300
6/10	3×95 + 2×50/2 + FO	12,7	59,6	61,9	6550	8550
6/10	3×120 + 2×70/2 + FO	14,5	63,4	66	7830	10800
6/10	3×150 + 2×70/2 + FO	16,7	69,9	72,6	9440	13500
6/10	3×185 + 2×95/2 + FO	17,6	73,1	77,2	9750	16650
6/10	3×240 + 2×120/2 + 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 × mm ²	mm	mm	mm	kg/km	N
8,7/15	3×25 + 2×25/2 + FO	6,9	48	49,9	3460	2250
8,7/15	3×35 + 2×25/2 + FO	7,8	49,9	52,2	3910	3150
8,7/15	3×50 + 2×25/2 + FO	9,3	53,1	55,4	4600	4500
8,7/15	3×70 + 2×35/2 + FO	11,1	58,8	61,1	5890	6300
8,7/15	3×95 + 2×50/2 + FO	12,7	62,1	64,7	6850	8550
8,7/15	3×120 + 2×70/2 + FO	14,5	67,8	70,4	8410	10800
8,7/15	3×150 + 2×70/2 + FO	16,7	71,1	73,4	8630	13500
8,7/15	3×185 + 2×95/2 + FO	17,6	74,2	77,1	9760	16650
8,7/15	3×240 + 2×120/2 + FO	20,05	78,1	83,1	12520	21600

12/20	3×25 + 2×25/2 + FO	6,9	50,5	52,8	3740	2250
12/20	3×35 + 2×25/2 + FO	7,8	52,6	54,9	4200	3150
12/20	3×50 + 2×25/2 + FO	9,3	57,5	59,8	5130	4500
12/20	3×70 + 2×35/2 + FO	11,1	61,3	63,9	6240	6300
12/20	3×95 + 2×50/2 + FO	12,7	64,7	67,3	7220	8550
12/20	3×120 + 2×70/2 + FO	14,5	70,4	73,1	8850	10800
12/20	3×150 + 2×70/2 + FO	16,7	74,1	76,4	9050	13500
12/20	3×185 + 2×95/2 + FO	17,6	77,1	81,1	10630	16650
12/20	3×240 + 2×120/2 + 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 × mm ²	mm	mm	mm	kg/km	N
3,6/6	3×25 + 2×25/2 + FO	6,6	38,6	41,6	2370	2250
3,6/6	3×35 + 2×25/2 + FO	8	40,1	43,1	2720	3150
3,6/6	3×50 + 2×25/2 + FO	9,3	42,7	45,7	3320	4500
3,6/6	3×70 + 2×35/2 + FO	11,2	46,8	49,8	4310	6300
3,6/6	3×95 + 2×50/2 + FO	13	51	55	5300	8550
3,6/6	3×120 + 2×70/2 + FO	15	55,4	59,4	6620	10800
3,6/6	3×150 + 2×70/2 + FO	16,9	61,1	65,1	7860	13500
3,6/6	3×185 + 2×95/2 + FO	18,3	64,8	68,8	9170	16650
3,6/6	3×240 + 2×120/2 + FO	20,5	72	76	11970	21600

6/10	3×25 + 2×25/2 + FO	6,6	39,2	42,2	2420	2250
6/10	3×35 + 2×25/2 + FO	8	40,8	43,8	2780	3150
6/10	3×50 + 2×25/2 + FO	9,3	43,7	46,7	3430	4500
6/10	3×70 + 2×35/2 + FO	11,2	47,8	50,8	4420	6300
6/10	3×95 + 2×50/2 + FO	13	52	56	5420	8550
6/10	3×120 + 2×70/2 + FO	15	56,1	60,1	6690	10800
6/10	3×150 + 2×70/2 + FO	16,9	62	66	7970	13500
6/10	3×185 + 2×95/2 + FO	18,3	65,5	69,5	9330	16650
6/10	3×240 + 2×120/2 + 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 × mm ²	mm	mm	mm	kg/km	N
8,7/15	3×25 + 2×25/2 + FO	6,6	41,5	44,5	2610	2250
8,7/15	3×35 + 2×25/2 + FO	8	42,5	45,5	2980	3150
8,7/15	3×50 + 2×25/2 + FO	9,3	45,8	48,8	3630	4500
8,7/15	3×70 + 2×35/2 + FO	11,2	50,2	54,2	4730	6300
8,7/15	3×95 + 2×50/2 + FO	13	54,5	58,5	5720	8550
8,7/15	3×120 + 2×70/2 + FO	15	60,5	64,5	7280	10800
8,7/15	3×150 + 2×70/2 + FO	16,9	64,6	68,6	8320	13500
8,7/15	3×185 + 2×95/2 + FO	18,3	68	72	9760	16650
8,7/15	3×240 + 2×120/2 + FO	20,5	75,4	79,4	12520	21600

12/20	3×25 + 2×25/2 + FO	6,6	44,8	47,8	2980	2250
12/20	3×35 + 2×25/2 + FO	8	46,5	49,5	3370	3150
12/20	3×50 + 2×25/2 + FO	9,3	50	54	4110	4500
12/20	3×70 + 2×35/2 + FO	11,2	54,1	58,1	5160	6300
12/20	3×95 + 2×50/2 + FO	13	58	62	6130	8550
12/20	3×120 + 2×70/2 + FO	15	64,3	68,3	7800	10800
12/20	3×150 + 2×70/2 + FO	16,9	68,4	72,4	8850	13500
12/20	3×185 + 2×95/2 + FO	18,3	73,7	77,7	10630	16650
12/20	3×240 + 2×120/2 + FO	20,5	78,5	83,5	13040	21600

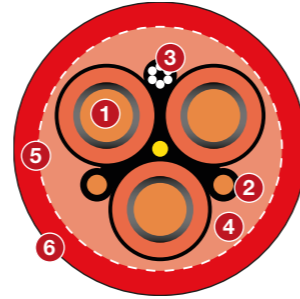
The diameter and weight shown is approximate, they may have some tolerance (to be confirmed when ordering).
Other cross sections and colors available upon request.

UTVFLEX® - RF MT FO

(N)TSKCGEWÖU

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)
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)
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

CENTRAL CRADLE

MATERIAL: semiconductive compound on Kevlar® element

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

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

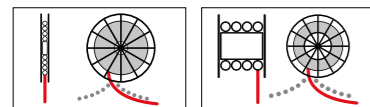
Bending radius	mm	According to VDE 0298 Part 3
Maximum torsional stress	°/m	±25
Maximum tensile load*	N	See table on pages 46 and 47
Max working speed	m/min	240

* 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

APPLICATION



UTVFLEX® - RF 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	42,9	44,6	2930	6250
3,6/6	3x35 + 2x25/2 + FO	7,8	46,2	47,9	3490	7150
3,6/6	3x50 + 2x25/2 + FO	9,3	49,4	51,2	4170	8500
3,6/6	3x70 + 2x35/2 + FO	11,1	53,2	55,3	5190	10300
3,6/6	3x95 + 2x50/2 + FO	12,7	59,3	61,4	6460	12550
3,6/6	3x120 + 2x70/2 + FO	14,5	63,1	65,5	7740	14800
3,6/6	3x150 + 2x70/2 + FO	16,7	69,6	72,1	9340	17500

6/10	3x25 + 2x25/2 + FO	6,9	42,9	44,6	2930	6250
6/10	3x35 + 2x25/2 + FO	7,8	46,2	47,9	3490	7150
6/10	3x50 + 2x25/2 + FO	9,3	49,4	51,2	4170	8500
6/10	3x70 + 2x35/2 + FO	11,1	53,2	55,3	5190	10300
6/10	3x95 + 2x50/2 + FO	12,7	59,3	61,4	6520	12550
6/10	3x120 + 2x70/2 + FO	14,5	63,1	65,5	7800	14800
6/10	3x150 + 2x70/2 + FO	16,7	69,6	72,1	9400	17500

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	47,7	49,4	3450	6250
8,7/15	3x35 + 2x25/2 + FO	7,8	49,6	51,7	3900	7150
8,7/15	3x50 + 2x25/2 + FO	9,3	52,8	54,9	4580	8500
8,7/15	3x70 + 2x35/2 + FO	11,1	58,5	60,6	5870	10300
8,7/15	3x95 + 2x50/2 + FO	12,7	61,8	64,2	6820	12550
8,7/15	3x120 + 2x70/2 + FO	14,5	67,5	69,9	8380	14800

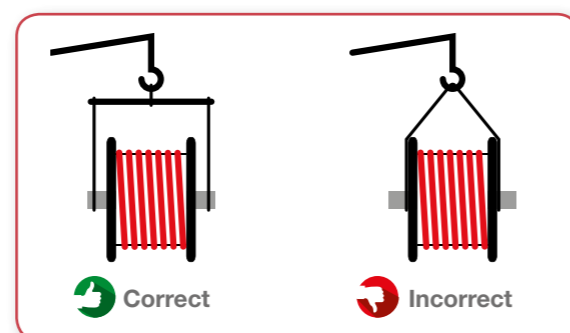
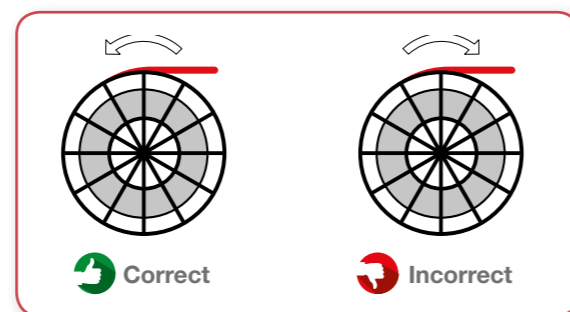
12/20	3x25 + 2x25/2 + FO	6,9	50,2	52,3	3730	6250
12/20	3x35 + 2x25/2 + FO	7,8	52,3	54,4	4190	7150
12/20	3x50 + 2x25/2 + FO	9,3	57,2	59,3	5110	8500
12/20	3x70 + 2x35/2 + FO	11,1	61	63,4	6220	10300
12/20	3x95 + 2x50/2 + FO	12,7	64,4	66,8	7190	12550
12/20	3x120 + 2x70/2 + FO	14,5	70,1	72,6	8820	14800

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.

GUIDE TO USE

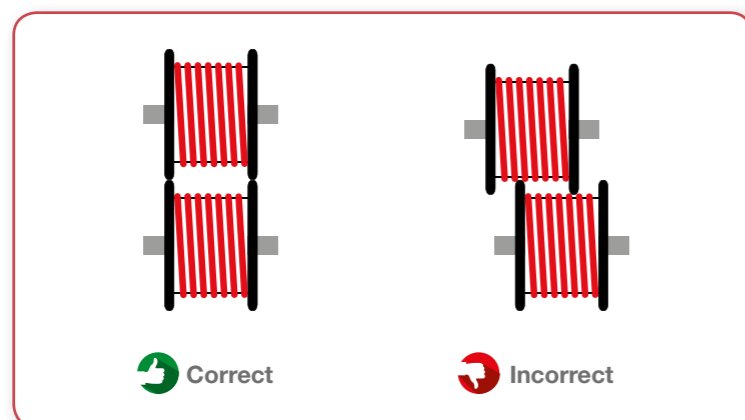
HANDLING

When handling drums, reasonable precautions should be taken in consideration in order to avoid damage to the cable and injury to people. Due regard should be paid to the mass of the drum, the method and direction of rolling and the method of lifting.



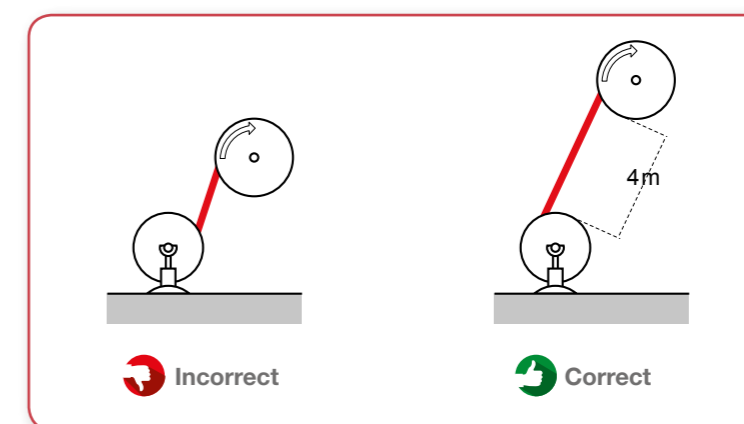
STORAGE

Cable drums should be stored so that the drum flanges do not contact cable on another drum. Cables stored at temperatures which are below those recommended for installation conditions, should not be subject to any mechanical stress including shocks, impacts, bending and torsions. If cables are not fully protected (with battens or plastic foils for example), store should be in a protected area and not weather-beaten. The cable end should be sealed, in case, to prevent ingress of moisture during transport and storage.



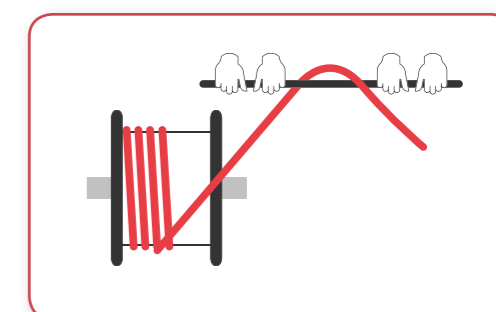
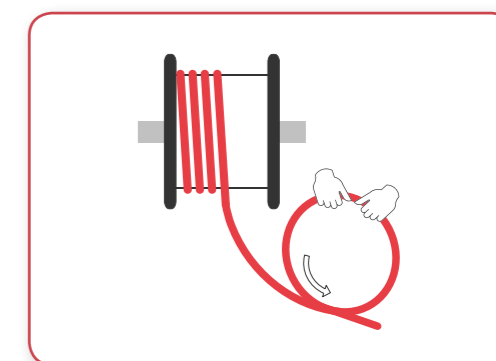
INSTALLATION & USE

The correct installation method should be done by unwinding the cable along the machine with standard cable pulling system and rollers. If this is not possible, because of the site conditions, it's possible to transfer the cable directly to the operating drum but avoiding reverse bending and, if possible, with a distance between the reels at least of 4 meters.



It's necessary to be careful during the transfer of the cable because it could have a residual torsion from the beginning, before to start its real application. In order to remove the initial torsions, if present, we suggest a couple of solutions:

- Create a spiral with the cable from the drum jacked on and roll it up to the free end, this operation will remove the twisting
Fix the cable in order to start the operation. If after the first operation there is still a twisting it's better to repeat the removal process.
- A couple of people could walk handling a cylinder bar under the cable from the drum jacked on up to free end, in this way they will push the twisting out from the cable. In case of residual twisting repeat the operation.



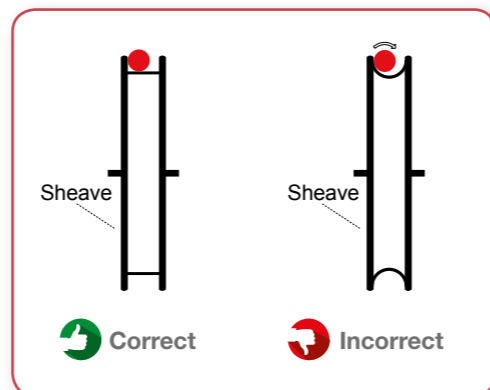
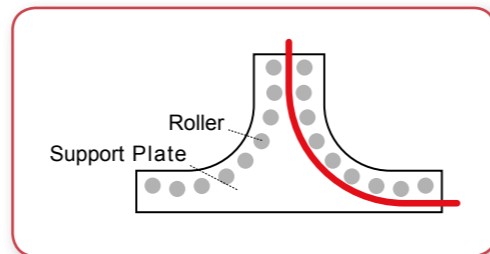
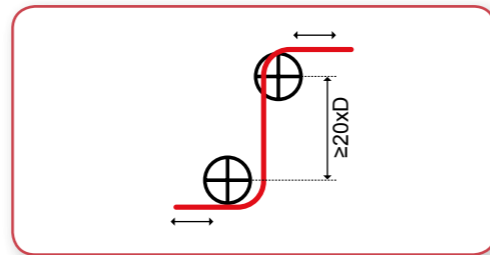
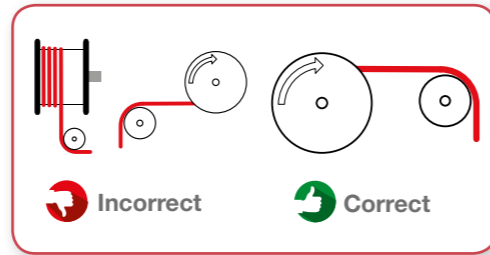
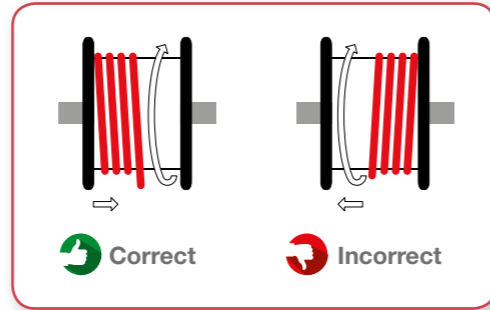
UTV CAVI'S cables are produced with S stranding direction. In this case we recommend to start winding the cables, on the reeling drum, from the left side of reel as shown in the pictures:

Changing direction during winding or unwinding, is a dangerous operation: it has to be gradual. The rollers and the shaves must be well positioned at an adequate distance in order to avoid mechanical stresses to the cores.

If the change of direction cannot be avoided, the minimum distance with double or S-type directional changer must be bigger than $20 \times D$ (D = overall cable diameter).

For a large diameter cable it would be better to use rollers to reduce the friction with the sheath during the change of direction.

If sheaves are used, it is important to have a flat surface profile, to avoid unwanted rotations or twisting caused by the continuous clash with the sides of the sheave. In any case, the width of a cradle or that of a roller, should be 10-15% larger than the outer cable diameter to allow a correct running.



CABLE GUIDE

Safe and smooth guidance of the cable for end and centre feed.

ROLLER GUIDE

Defined guidance of the cable from reel body to feed point.

CABLE FEED POINT

Ideal cable guidance at feeding point for centre feed applications.

CABLE MESH GRIP

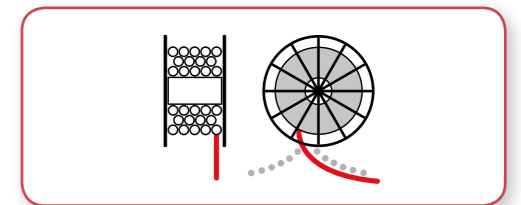
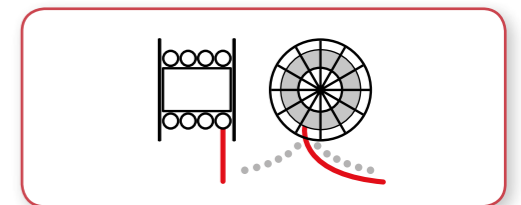
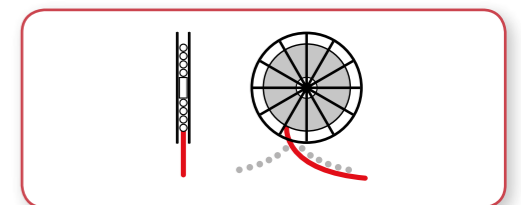
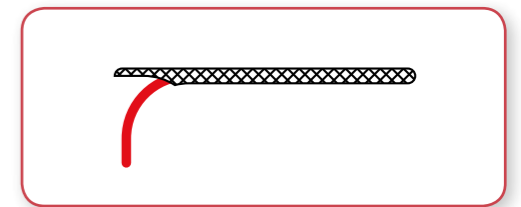
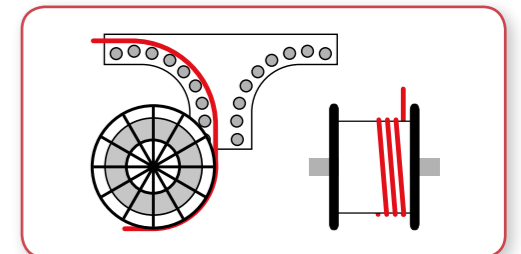
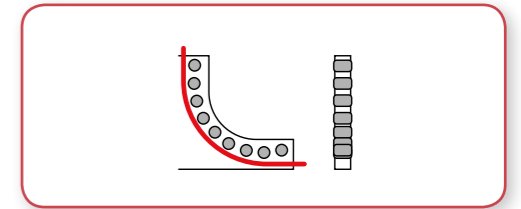
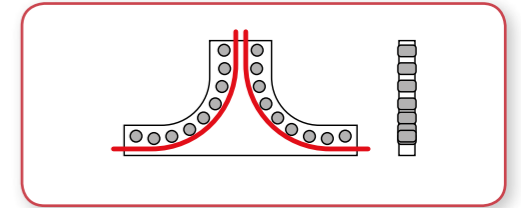
Ideal tension relief for cable at feeding point. Safe and simple to handle, it spreads the forces over a wide surface area to prevent cable damage.

TYPES

Monospiral drum (single spire multi layers) ideal to guarantee the heat dissipation and the control of irregular twisting during unwinding. The limit could be the cable's length in relation with the reel's diameter.

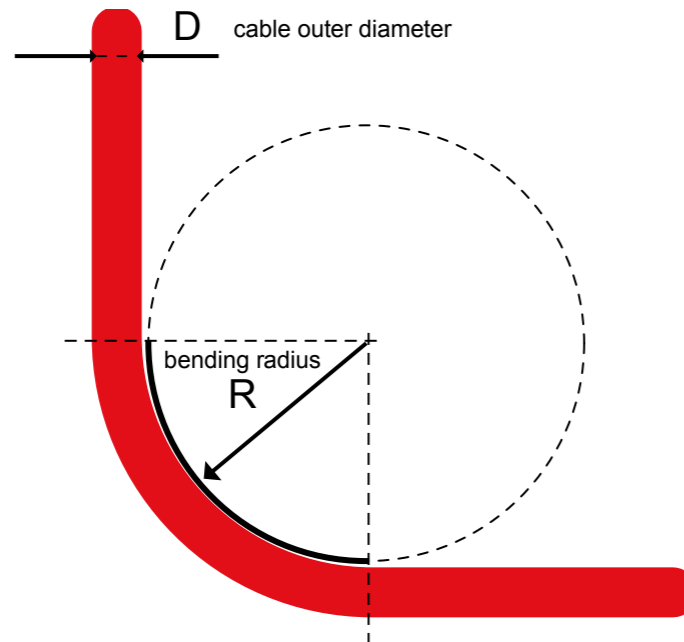
Multispiral drum (multi spires single layer) used in case of long cable lengths. It is important to ensure that the guide mechanism doesn't damage the cable during unwinding, for example: avoiding anomalous rub against the surface of the previous spire or irregular twisting. It is advisable to use maximum two layers to allow the thermal balance.

Cylindric drum (multi spires multi layers random wound) it is the cheaper reel but it doesn't guarantee the control over the layers of cable: the cable could be stacked, for example, on one side of the drum.



MECHANICAL PARAMETERS

According to VDE 0298-3



RATED VOLTAGE U0/U	UP TO 0,6/1KV				ABOVE 0,6/1KV
	Cable diameter D mm	Up to 8	from 8 to 12	from 12 to 20	above 20
Fixed installation	3xD	3xD	4xD	4xD	6xD
Freely flexing	3xD	4xD	5xD	5xD	10xD
For the entry e.g. at a center feed point	3xD	4xD	5xD	5xD	10xD
Forced guidance with reeling operation	5xD	5xD	5xD	6xD	12xD
Forced guidance with festoon operation	3xD	4xD	5xD	5xD	10xD
Forced guidance with power tracks	4xD	4xD	5xD	5xD	10xD
Forced guidance with sheaves and multiroller guides	7,5xD	7,5xD	7,5xD	7,5xD	15xD
Forced guidance with cable tenders	7,5xD	7,5xD	7,5xD	7,5xD	15xD

MAXIMUM TENSILE LOAD

The tensile load for flexible cables in fixed application can be considered 50 N/mm² referred to the cross section of the conductors. In case of mobile application the value would be 15 N/mm² (according to the Standard DIN VDE 0298 Part 3) but we took in consideration the static and dynamic load and we have improved the value according to the table beside. The load must be calculated with the power conductor cross sections without considering earth conductors, screens, etc... If a higher tensile load is required for a specific application we can add a reinforced central element in order to improve this performance.

CABLE	TENSILE LOAD (N/mm ²)
UTVFLEX®	20
UTVFLEX® - VS	30
UTVFLEX® - PUR HF	30
UTVFLEX® - SPR	see technical data sheet
UTVFLEX® - BASKET	see technical data sheet
UTVFLEX® - FESTOON	15
UTVFLEX® - FESTOON/FO	1200
UTVFLEX® - R MT	30
UTVFLEX® - R MT FO	30
UTVFLEX® - R MT FO/RF	see technical data sheet

MAXIMUM TENSILE LOAD

The construction of the families of this ca-talogue is designed in order to withstand to different mechanical stresses, during the operation the cables could be also un-der torsion stress but this is a parameter that must be evaluated with attention be-cause they're not specifically studied for it. Anyway in the table beside you can find the values of maximum torsional stress in stan-dard conditions, in case of unexpected pro-blems during the application these values can not be taken in consideration.

CABLE	TORSIONAL STRESS (°/m)
UTVFLEX®	±25
UTVFLEX® - VS	±50
UTVFLEX® - PUR HF	±25
UTVFLEX® - SPR	±50
UTVFLEX® - BASKET	N.A.
UTVFLEX® - FESTOON	±90
UTVFLEX® - FESTOON/FO	±50
UTVFLEX® - R MT	±25
UTVFLEX® - R MT/FO	±25
UTVFLEX® - RF/MT FO	±25

ELECTRICAL PARAMETERS

CURRENT CARRYING CAPACITY UP TO 6/10 kV (VDE 0298-4) ambient temperature 30°C

Application	Cross section	Laying on the floor	Free in air	Reeled						
				1 layer	2 layer	3 layer	4 layer	5 layer	6 layer	7 layer
mm ²	A	A	A	A	A	A	A	A	A	
1	19	20	15	12	9	8	7	5	4	
1,5	24	25	19	15	12	10	9	6	5	
2,5	30	32	24	18	15	13	11	8	7	
4	41	43	33	25	20	17	16	11	9	
6	53	56	42	32	26	22	20	14	12	
10	74	78	59	45	36	31	28	20	16	
16	99	104	79	60	49	42	38	27	22	
25	131	138	105	80	64	55	50	35	29	
35	162	170	130	99	79	68	62	44	36	
50	202	212	162	123	99	85	77	55	44	
70	250	263	200	153	123	105	95	68	55	
95	301	316	241	184	147	126	114	81	66	
120	352	370	282	215	172	148	134	95	77	
150	404	424	323	246	198	170	154	109	89	
185	461	484	369	281	226	194	175	124	101	
240	528	554	422	322	259	222	201	143	116	
300	608	638	486	371	298	255	231	164	134	

CURRENT CARRYING CAPACITY ABOVE 6/10 kV (VDE 0298-4) ambient temperature 30°C

Application	Cross section	Laying on the floor	Reeled						
			1 layer	2 layer	3 layer	4 layer	5 layer	6 layer	7 layer
mm ²	A	A	A	A	A	A	A	A	
16	105	84	64	51	44	40	28	23	
25	139	111	85	68	58	53	38	31	
35	172	138	105	84	72	65	46	38	
50	216	173	132	106	91	82	58	48	
70	265	212	162	130	111	101	72	58	
95	319	255	195	156	134	121	86	70	
120	371	297	226	182	156	141	100	82	
150	428	342	261	210	180	163	116	94	
185	488	390	298	239	205	185	132	107	
240	574	459	350	281	241	218	155	126	
300	660	528	403	323	277	251	178	145	

CORRECTION FACTORS (VDE 0298-4)

N° operating cores	5	7	10	14	19	24	40	61								
Factor	0,75	0,65	0,55	0,50	0,45	0,40	0,35	0,30								
Ambient temp. (C°)	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85
Factor	1,15	1,12	1,08	1,04	1	0,96	0,91	0,87	0,82	0,76	0,71	0,65	0,58	0,50	0,41	0,29

The maximum temperature allowed for rubber cables, during short circuit, is 250°C. The maximum thermal short circuit current allowed, for a time t, can be calculated by the following formulas, valid in adiabatic conditions:

$$I_{cc} = \frac{143 \cdot S}{\sqrt{t}}$$

Where:

I_{cc} = Short circuit current (A)

S = Conductor size (mm²)

t = Time period of short circuit (max 5 s)

CONDUCTORS

ELECTRICAL RESISTANCE

Electrical resistance Ohm/km (according to IEC 60228 - VDE 0295)

CROSS-SECTION mm ²	FLEXIBLE CONDUCTORS, RESISTANCE AT 20°C		FLEXIBLE CONDUCTORS, RESISTANCE AT 90°C		RIGID CONDUCTORS, RESISTANCE AT 20°C		RIGID CONDUCTORS, RESISTANCE AT 90°C	
	Bare copper	Tinned copper	Bare copper	Tinned copper	Bare copper	Tinned copper	Bare copper	Tinned copper
1,5	13,3	13,7	16,93	17,44	12,1	12,2	15,4	15,53
2,5	7,98	8,21	10,16	10,45	7,41	7,56	9,43	9,62
4	4,95	5,09	6,3	6,48	4,61	4,7	5,87	5,98
6	3,3	3,39	4,2	4,32	3,08	3,11	3,92	3,96
10	1,91	1,95	2,43	2,48	1,83	1,84	2,33	2,34
16	1,21	1,24	1,54	1,58	1,15	1,16	1,46	1,48
25	0,78	0,8	0,99	1,01	0,73	0,73	0,93	0,93
35	0,55	0,57	0,71	0,72	0,52	0,53	0,67	0,67
50	0,39	0,39	0,49	0,5	0,39	0,39	0,49	0,5
70	0,27	0,28	0,35	0,35	0,27	0,27	0,34	0,34
95	0,21	0,21	0,26	0,27	0,19	0,2	0,25	0,25
120	0,16	0,16	0,21	0,21	0,15	0,15	0,2	0,2
150	0,13	0,13	0,16	0,17	0,12	0,13	0,16	0,16
185	0,11	0,11	0,14	0,14	0,1	0,1	0,13	0,13
240	0,08	0,08	0,1	0,1	0,08	0,08	0,1	0,1
300	0,06	0,07	0,08	0,08	0,06	0,06	0,08	0,08
400	0,05	0,05	0,06	0,06	0,05	0,05	0,06	0,06
500	0,04	0,04	0,05	0,05	0,04	0,04	0,05	0,05
630	0,03	0,03	0,04	0,04	0,03	0,03	0,04	0,04



UTV CAVI
YOUR MOVING POWER®

UTVFLEX®



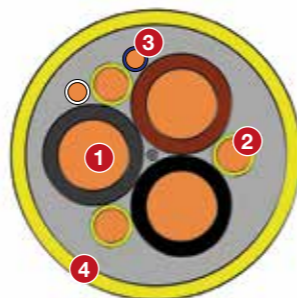
www.utvcavi.com

**TUNNELING
AND MINING**

UTVFLEX® - PUR TM HF

DIN VDE 0250 Part 812 approved

Power supply to mobile equipment with high risk of mechanical damage in mining and tunneling. Due to without anti-twisting protection, is suitable for application where it is deflected in one plane only. Maximum speed 60 m/min.



1 PHASE CONDUCTORS

MATERIAL: Plain copper
 CONSTRUCTION: flexible class 5 IEC 60228
 INSULATION: XLPE special compound, Brown-Black-Grey

2 EARTH CORES

MATERIAL: Plain copper
 CONSTRUCTION: flexible class 5 IEC 60228
 INSULATION: XLPE special compound, Yellow/Green

3 CONTROL CORES (IF ANY)

MATERIAL: Tinned copper
 CONSTRUCTION: Class. 6 according to IEC 60228
 INSULATION: Thin thickness made of special tecnopolymer.
 COLOUR: white with printed number or new colour code white-blue

4 OUTER SHEAT

MATERIAL: HFFR* thermoplastic polyurethane compound, abrasion, tear, chemical & hydrolysis resistant
 COLOUR: Yellow
 STANDARD REFERENCE: based on UC specifications

*Halogen free and flame retardant

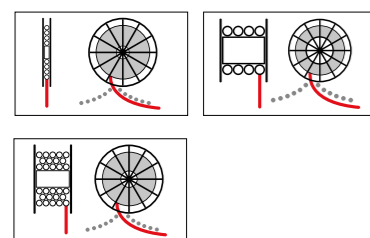
ELECTRICAL WORKING DATA

Nominal rated voltage U_0 / U	kV	0,6/1
Test voltage	kV	3,5

THERMAL WORKING DATA

Maximum short circuit temperature	°C	250
Maximum working temp. on the conductor	°C	90
Minimum ambient temperature	°C	Flex condition: -30 Fixed condition: -40

APPLICATION



MECHANICAL WORKING DATA

Bending radius	mm	According to VDE 0298 Part 3
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CHEMICAL WORKING DATA

Weather resistance	For indoor and outdoor application	
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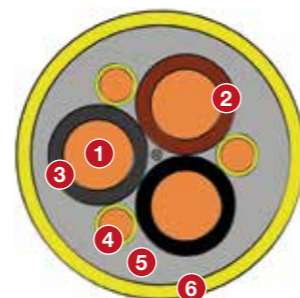
NUMBER OF CORES AND NOMINAL CROSS SECTION Nr × mm ²	MAIN CONDUCTORS COPPER Ø mm	PROTECTIVE EARTH COND. COPPER Ø mm	MIN OVERALL Ø mm	MAX OVERALL Ø mm	NET WEIGHT APPROX kg/km	MAX TENSILE LOAD N
3×25+3G6	6,5	3,0	24,0	26,0	1190	2250
3×35+3G6	7,5	3,0	25,5	28,0	1470	3150
3×50+3G10	9,1	3,9	29,5	32,0	2070	4500
3×70+3G16	10,8	5,1	34,0	37,0	2970	6300
3×95+3G16	12,1	5,1	37,5	40,5	3610	8550
3×120+3G25	14,3	6,5	42,0	45,0	4760	10800
3×150+3G25	16,1	6,5	47,5	50,5	5790	13500
3×185+3G35	17,5	7,5	52,0	55,0	7040	16650
3×240+3G50	19,9	9,1	58,0	61,0	9150	21600
K	1,1	1,05	0,95	0,89	0,84	0,77

NUMBER OF CORES AND NOMINAL CROSS SECTION Nr × mm ²	MAIN CONDUCTORS COPPER Ø mm	PROTECTIVE EARTH COND. COPPER Ø mm	CONTROL CONDUCTORS INSULATED Ø mm	MIN OVERALL Ø mm	MAX OVERALL Ø mm	NET WEIGHT APPROX kg/km	MAX TENSILE LOAD N
3×25+3G6+2×1.5	6,5	3,0	2,6	25,0	27,5	1290	2250
3×35+3G6+2×1.5	7,5	3,0	2,6	26,0	28,5	1550	3150
3×50+3G10+2×1.5	9,1	3,9	2,6	29,5	32,0	2100	4500
3×70+3G16+2×1.5	10,8	5,1	2,6	34,0	37,0	3000	6300
3×95+3G16+2×1.5	12,1	5,1	2,6	37,5	40,5	3640	8550
3×120+3G25+2×1.5	14,3	6,5	2,6	42,0	45,0	4790	10800
3×150+3G25+2×1.5	16,1	6,5	2,6	47,5	50,5	5830	13500
3×185+3G35+2×1.5	17,5	7,5	2,6	52,0	55,0	7070	16650
3×240+3G50+2×1.5	19,9	9,1	2,6	58,0	61,0	9180	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.

UTVFLEX® - MINING NSSHÖU O/J...../3E.....+ST

DIN VDE 0250 Part 812 approved



Heavy duty tough rubber flexible cable with or without individually earth screened cores for dynamic or static applications and in aggressive environments. Flame retardant, abrasion, cut, notch and tear resistant. Good resistance to oil and fats. UTVFLEX® - MINING is suitable for installation inside or outside in dry, damp or wet environments and in hazardous environments (subject to local regulations). For power supplies and controlling in mines, quarries, industrial plants, ports, infrastructure, agriculture and mobile equipment where high levels of mechanical stress and abrasion are expected. UTVFLEX® - MINING can be permanently submersed in fresh water, salt water, waste water, storm water, oily water and sewage contaminated water to a depth of 100 meters.

1 PHASE CONDUCTORS

MATERIAL: tinned copper
CONSTRUCTION: class 5 VDE 0295 (IEC 60228)

2 INSULATION

MATERIAL: 3GI3 quality rubber compound, according to VDE 0207 Part 20
NOMINAL THICKNESS: according to VDE 0250 Part 8012

CORES IDENTIFICATION

according to VDE 0293 Part 308 (HD 308)

3 INDIVIDUAL CORE SCREEN (if present)

MATERIAL: bare copper
CONSTRUCTION: copper braid up to 10 mm², copper wires from 16 mm²

4 CONTROL CONDUCTORS (if present)

MATERIAL: tinned copper
CONSTRUCTION: class 5 VDE 0295 (IEC 60228)
INSULATION MATERIAL: 3GI3 quality rubber compound, according to VDE 0207 Part 20

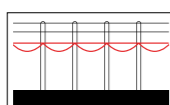
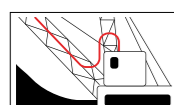
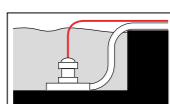
5 INNER SHEATH

MATERIAL: rubber compound GM1b quality, according to VDE 0207 Part 21

6 OUTER SHEATH

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

APPLICATION



ELECTRICAL WORKING DATA

Nominal rated voltage U_0 / U	kV	0,6/1
Test voltage	kV	3
Max AC voltage	kV	0,7/1,2
Max DC voltage	kV	1,8
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
Ambient temperature	°C	Mobile condition: -25 to +80 Static condition: -40 to +80

MECHANICAL WORKING DATA

Bending radius	mm	According to VDE 0298 Part 3
Submersible	m	100
Maximum tensile load*	N/mm ²	15

* Referred to the total phase conductors cross section

CHEMICAL WORKING DATA

Burning behaviour	Flame retardant according to IEC 60332-1-2
Resistance to oil	According to IEC 60811-2-1
Ozone resistance	According to IEC 60811-2-1
Behaviour in water	HD 22.16 and UC internal test, suitable for immersion in salt and brackish water
Weather resistance	For indoor and outdoor application

UTVFLEX® - NSSHÖU O/J

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

0,6/1	1x1,5	1,5	6,3	7,0	60	23
0,6/1	1x2,5	1,9	7,0	7,7	75	38
0,6/1	1x4	2,4	7,6	8,3	95	60
0,6/1	1x6	2,9	8,2	8,9	120	90
0,6/1	1x10	3,8	9,5	10,2	180	150
0,6/1	1x16	4,8	10,5	11,2	245	240
0,6/1	1x25	6,1	13,0	13,7	375	375
0,6/1	1x35	7,2	14,1	14,8	480	525
0,6/1	1x50	8,9	16,2	16,9	660	750
0,6/1	1x70	10,6	18,3	19,0	875	1050
0,6/1	1x95	12,5	20,5	21,7	1150	1425
0,6/1	1x120	14,2	22,8	24,0	1430	1800
0,6/1	1x150	15,9	25,0	26,2	1750	2250
0,6/1	1x185	17,7	28,2	29,4	2180	2775
0,6/1	1x240	20,1	31,1	32,3	2770	3600
0,6/1	1x300	22,5	34,9	36,1	3510	4500

0,6/1	3x1,5	1,5	11,7	12,3	190	68
0,6/1	3x2,5	1,9	13,1	13,7	255	113
0,6/1	3x4	2,4	15,6	16,2	375	180
0,6/1	3x6	2,9	16,8	17,4	465	270
0,6/1	3x10	3,8	20,2	21,3	710	450
0,6/1	3x16	4,8	22,3	23,4	930	720
0,6/1	3x25	6,1	26,9	28,0	1390	1125
0,6/1	3x35	7,2	30,2	31,4	1880	1575
0,6/1	3x50	8,9	35,8	37,0	2500	2250
0,6/1	3x70	10,6	39,3	40,5	3460	3150
0,6/1	3x95	12,5	45,7	47,4	4570	4275
0,6/1	3x120	14,2	48,2	49,9	5220	5400
0,6/1	3x150	15,9	52,6	54,4	6460	6750
0,6/1	3x185	17,7	58,7	61,0	7980	8325

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

0,6/1	3x50 + 3x25/3	8,9	36,3	37,5	2790	2250
0,6/1	3x70 + 3x35/3	10,6	39,7	41,4	3660	3150
0,6/1	3x95 + 3x50/3	12,5	46,3	48,0	4800	4275
0,6/1	3x120 + 3x70/3	14,2	48,5	50,3	5990	5400
0,6/1	3x150 + 3x70/3	15,9	54,3	56,1	7030	6750
0,6/1	3x185 + 3x95/3	17,7	61,7	64,0	9030	8325
0,6/1	3x240 + 3x120/3	20,1	66,5	68,8	11280	10800

0,6/1	4x1,5	1,5	12,5	13,1	225	90
0,6/1	4x2,5	1,9	15,3	15,9	350	150
0,6/1	4x4	2,4	16,7	17,3	440	240
0,6/1	4x6	2,9	18,1	18,7	550	360
0,6/1	4x10	3,8	21,9	23,0	860	600
0,6/1	4x16	4,8	25,2	26,3	1210	960
0,6/1	4x25	6,1	30,6	31,8	1810	1500
0,6/1	4x35	7,2	32,8	34,0	2330	2100
0,6/1	4x50	8,9	39,0	40,2	3300	3000
0,6/1	4x70	10,6	42,8	44,5	4300	4200
0,6/1	4x95	12,5	49,9	51,7	5680	5700
0,6/1	4x120	14,2	55,6	57,4	6820	7200
0,6/1	4x150	15,9	60,6	62,9	8270	9000
0,6/1	4x185	17,7	67,4	69,7	10350	11100

0,6/1	5x1,5	1,5	13,4	14,0	270	113
0,6/1	5x2,5	1,9	16,4	17,0	410	188
0,6/1	5x4	2,4	18,0	18,6	525	300
0,6/1	5x6	2,9	20,3	21,4	715	450
0,6/1	5x10	3,8	23,7	24,8	1040	750
0,6/1	5x16	4,8	27,3	28,4	1470	1200
0,6/1	5x25	6,1	33,2	34,4	2220	1875

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.

VOLTAGE kV	CORES X CROSS SECTION Nr x mm ²	CONDUCTOR Ø mm	MIN OVERALL Ø mm	MAX OVERALL Ø mm	APPROX WEIGHT kg/km	MAX TENSILE LOAD N
0,6/1	7x1,5	1,5	16,9	17,5	400	158
0,6/1	12x1,5	1,5	19,6	20,2	540	270
0,6/1	18x1,5	1,5	22,2	23,3	750	405
0,6/1	24x1,5	1,5	23,7	25,1	900	540
0,6/1	7x2,5	1,9	19,2	19,8	560	263
0,6/1	12x2,5	1,9	22,3	23,4	790	450
0,6/1	18x2,5	1,9	26,5	27,6	1110	675
0,6/1	24x2,5	1,9	28,4	29,6	1350	900

UTVFLEX® - NSSHÖU...../3E

VOLTAGE kV	CORES X CROSS SECTION Nr x mm ²	CONDUCTOR Ø mm	MIN OVERALL Ø mm	MAX OVERALL Ø mm	APPROX WEIGHT kg/km	MAX TENSILE LOAD N
0,6/1	3x2,5 + 3x2,5/3E	1,9	16,2	16,9	370	113
0,6/1	3x4 + 3x4/3E	2,4	17,7	18,4	490	180
0,6/1	3x6 + 3x6/3E	2,9	18,9	19,6	590	270
0,6/1	3x10 + 3x10/3E	3,8	22,4	23,5	890	450
0,6/1	3x16 + 3x16/3E	4,8	26,6	27,7	1260	720
0,6/1	3x25 + 3x16/3E	6,1	29,9	31,1	1700	1125
0,6/1	3x35 + 3x16/3E	7,2	33,9	35,1	2100	1575
0,6/1	3x50 + 3x25/3E	8,9	39,8	41,5	3060	2250
0,6/1	3x70 + 3x35/3E	10,6	43,4	45,1	3940	3150
0,6/1	3x95 + 3x50/3E	12,5	50,0	51,8	5240	4275
0,6/1	3x120 + 3x70/3E	14,2	54,1	55,9	6580	5400
0,6/1	3x150 + 3x70/3E	15,9	59,7	62,0	7590	6750
0,6/1	3x185 + 3x95/3E	17,7	66,1	68,4	9400	8325

UTVFLEX® - NSSHÖU...../3E.....+ST

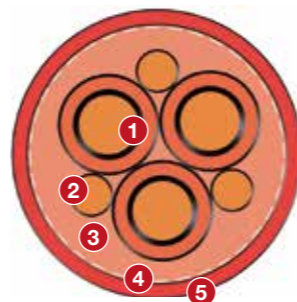
VOLTAGE kV	CORES X CROSS SECTION Nr x mm ²	CONDUCTOR Ø mm	MIN OVERALL Ø mm	MAX OVERALL Ø mm	APPROX WEIGHT kg/km	MAX TENSILE LOAD N
0,6/1	3x2,5 + 3x2,5/3E + 3x1,5ST	1,9	16,2	18,1	425	113
0,6/1	3x4 + 3x4/3E + 3x1,5ST	2,4	17,7	19,6	540	180
0,6/1	3x6 + 3x6/3E + 3x1,5ST	2,9	18,9	20,3	640	270
0,6/1	3x10 + 3x10/3E + 3x2,5ST	3,8	22,4	23,5	940	450
0,6/1	3x16 + 3x16/3E + 3x2,5ST	4,8	26,6	27,7	1310	720
0,6/1	3x25 + 3x16/3E + 3x2,5ST	6,1	29,9	31,1	1800	1125
0,6/1	3x35 + 3x16/3E + 3x2,5ST	7,2	33,9	35,1	2230	1575
0,6/1	3x50 + 3x25/3E + 3x2,5ST	8,9	39,8	41,5	3160	2250
0,6/1	3x70 + 3x35/3E + 3x2,5ST	10,6	43,4	45,1	4210	3150
0,6/1	3x95 + 3x50/3E + 3x2,5ST	12,5	50,0	51,8	5520	4275
0,6/1	3x120 + 3x70/3E + 3x2,5ST	14,2	54,1	55,9	6730	5400
0,6/1	3x150 + 3x70/3E + 3x2,5ST	15,9	59,7	62,0	7740	6750
0,6/1	3x185 + 3x95/3E + 3x2,5ST	17,7	66,1	68,4	9700	8325

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.

UTVFLEX® - TM MT

DIN VDE 0250 Part 813

Flexible reeling cable with reduced weight and dimensions for high and extreme mechanical stresses, e.g. torsional stress, deflection into different planes and high reeling speed.



- 1 PHASE CONDUCTORS**
 MATERIAL: tinned copper
 CONSTRUCTION: class 5 VDE 0295 (IEC 60228)*
 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
 CONDUCTOR CONSTRUCTION: class 5 VDE 0295 (IEC 60228)*
 COVERING MATERIAL: semiconductive layer

- CENTRAL FILLER**
 MATERIAL: semiconductive compound on textile polyester support

- CORES ASSEMBLY**
 ASSEMBLY: twisted cores with earth conductor split into 3 parts
 SEPARATOR ON THE TWISTED ASSEMBLY: semiconductive tape wound on the twisted cores

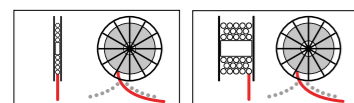
- 3 INNER SHEATH**
 MATERIAL: Gm1b/5GM5 quality rubber compound, according to VDE 0207 Part 21
 THICKNESS: according to VDE 0250 Part 813 (table 2)

- 4 ANTITWISTING ELEMENT**
 MATERIAL: polyester braid between inner and outer sheath

- 5 OUTER SHEATH**
 MATERIAL: 5GM5 quality rubber compound, according to VDE 0207 Part 21
 THICKNESS: according to VDE 0250 Part 813 (table 2)

*Special construction for higher flexibility

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
Ambient temperature	°C	Mobile condition: -25 to +80 Static condition: -40 to +80

MECHANICAL WORKING DATA

Bending radius	mm	According to VDE 0298 Part 3
Submersible	°/m	±25
Maximum tensile load*	N/mm ²	20
Max working speed	m/min	120
Special test	Reeling test	

* Referred to the total phase conductors cross section
 Upon request it's available the RF version with improved mechanical characteristics designed for ASC's and ARMG's

CHEMICAL WORKING DATA

Burning behaviour	Flame retardant according to IEC 60332-1-2
Resistance to oil	According to IEC 60811-2-1
Ozone resistance	According to IEC 60811-2-1
Weather resistance	For indoor and outdoor application

UTVFLEX® - TM MT

VOLTAGE kV	CORES X CROSS SECTION Nr × mm ²	CONDUCTOR Ø mm	MIN OVERALL Ø mm	MAX OVERALL Ø mm	APPROX WEIGHT kg/km	MAX TENSILE LOAD N
3,6/6	3×25 + 3×25/3	6,8	39,9	41,6	2390	1500
3,6/6	3×35 + 3×25/3	7,8	42,9	44,6	2970	2100
3,6/6	3×50 + 3×25/3	9,4	46,0	47,7	3600	3000
3,6/6	3×70 + 3×35/3	11,2	49,8	51,6	4600	4200
3,6/6	3×95 + 3×50/3	12,7	55,8	57,6	5800	5700
3,6/6	3×120 + 3×70/3	14,4	59,6	61,4	7070	7200
3,6/6	3×150 + 3×70/3	16,3	66,0	68,3	8870	9000
3,6/6	3×185 + 3×95/3	17,6	67,9	70,2	9980	11100

6/10	3×25 + 3×25/3	6,8	39,9	41,6	2390	1500
6/10	3×35 + 3×25/3	7,8	42,9	44,6	2970	2100
6/10	3×50 + 3×25/3	9,4	46,0	47,7	3600	3000
6/10	3×70 + 3×35/3	11,2	49,8	51,6	4600	4200
6/10	3×95 + 3×50/3	12,7	55,8	57,6	5860	5700
6/10	3×120 + 3×70/3	14,4	59,6	61,4	7120	7200
6/10	3×150 + 3×70/3	16,3	66,0	68,3	8930	9000
6/10	3×185 + 3×95/3	17,6	67,9	70,2	10080	11100

VOLTAGE kV	CORES X CROSS SECTION Nr × mm ²	CONDUCTOR Ø mm	MIN OVERALL Ø mm	MAX OVERALL Ø mm	APPROX WEIGHT kg/km	MAX TENSILE LOAD N
8,7/15	3×25 + 3×25/3	6,8	44,7	46,4	2800	1500
8,7/15	3×35 + 3×25/3	7,8	46,2	47,9	3160	2100
8,7/15	3×50 + 3×25/3	9,4	49,4	51,2	3960	3000
8,7/15	3×70 + 3×35/3	11,2	55,0	56,8	5020	4200
8,7/15	3×95 + 3×50/3	12,7	58,4	60,2	5840	5700
8,7/15	3×120 + 3×70/3	14,4	63,9	66,2	7420	7200
8,7/15	3×150 + 3×70/3	16,3	68,5	70,9	8620	9000

12/20	3×25 + 3×25/3	6,8	47,3	49,0	3340	1500
12/20	3×35 + 3×25/3	7,8	48,8	50,6	3690	2100
12/20	3×50 + 3×25/3	9,4	53,7	55,5	4640	3000
12/20	3×70 + 3×35/3	11,2	57,5	59,3	5720	4200
12/20	3×95 + 3×50/3	12,7	60,8	63,1	6660	5700
12/20	3×120 + 3×70/3	14,4	66,4	68,7	8200	7200

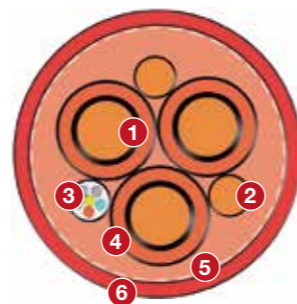
*The diameter and weight shown is approximate, they may have some tolerance (to be confirmed when ordering).
Other cross sections and colors available upon request.*



UTVFLEX® - TM MT FO

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.



1 PHASE CONDUCTORS

MATERIAL: tinned copper
CONSTRUCTION: class 5 VDE 0295 (IEC 60228)*
INSULATION MATERIAL: 3GI3 quality rubber compound, according to VDE 0207 Part 20
INSULATION THICKNESS: according to VDE 0250 Part 813 (table 1)
SEMICONDUCTIVE LAYERS: semiconductive tape over the conductor and inner and outer semiconductive rubber layer on the insulation

2 EARTH CONDUCTORS

MATERIAL: tinned copper
CONDUCTOR CONSTRUCTION: class 5 VDE 0295 (IEC 60228)*
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
NUMBER OF FIBRES: 6 - 8 - 12 - 24 multimode optical fibre, 4 - 6 - 8 - 12 - 24 singlemode optical fibre
FIBRES ARRANGEMENT COVERING: special rubber compound over the twisted cores

CENTRAL FILLER

MATERIAL: semiconductive compound on textile polyester support

CORES ASSEMBLY

MATERIAL: 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

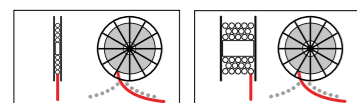
MATERIAL: 5GM3 quality rubber compound, according to VDE 0207 Part 21
THICKNESS: according to VDE 0250 Part 813 (table 2)

5 ANTITWISTING ELEMENT

MATERIAL: Polyester braid between inner and outer sheath
MATERIAL: 5GM5 quality rubber compound, according to VDE 0207 Part 21
THICKNESS: according to VDE 0250 Part 813 (table 2)

*Special construction for higher flexibility

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
Ambient temperature	°C	Mobile condition: -25 to +80 Static condition: -40 to +80

MECHANICAL WORKING DATA

Bending radius	mm	According to VDE 0298 Part 3
Submersible	°/m	±25
Maximum tensile load	N/mm ²	20
Max working speed	m/min	120
Special test	Reeling test	

CHEMICAL WORKING DATA

Burning behaviour	Flame retardant according to IEC 60332-1-2
Resistance to oil	According to IEC 60811-2-1
Ozone resistance	According to IEC 60811-2-1
Weather resistance	For indoor and outdoor application

OPTICAL WORKING DATA

FIBRE	GRADED INDEX MULTIMODE FIBRE				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® - TM MT FO

VOLTAGE kV	CORES X CROSS SECTION Nr x mm ²	CONDUCTOR Ø mm	MIN OVERALL Ø mm	MAX OVERALL Ø mm	APPROX WEIGHT kg/km	MAX TENSILE LOAD N
3,6/6	3x25 + 2x25/2 + FO	6,8	39,9	41,6	2390	1500
3,6/6	3x35 + 2x25/2 + FO	7,8	42,9	44,6	2970	2100
3,6/6	3x50 + 2x25/2 + FO	9,4	46,0	47,7	3600	3000
3,6/6	3x70 + 2x35/2 + FO	11,2	49,8	51,6	4600	4200
3,6/6	3x95 + 2x50/2 + FO	12,7	55,8	57,6	5800	5700
3,6/6	3x120 + 2x70/2 + FO	14,4	59,6	61,4	7070	7200
3,6/6	3x150 + 2x70/2 + FO	16,3	66,0	68,3	8870	9000

6/10	3x25 + 2x25/2 + FO	6,8	47,3	50,3	3370	1500
6/10	3x35 + 2x25/2 + FO	7,8	48,8	51,8	3730	2100
6/10	3x50 + 2x25/2 + FO	9,4	53,7	56,7	4680	3000
6/10	3x70 + 2x35/2 + FO	11,2	57,5	60,5	5770	4200
6/10	3x95 + 2x50/2 + FO	12,7	60,8	64,7	6720	5700
6/10	3x120 + 2x70/2 + FO	14,4	66,4	70,4	8280	7200

VOLTAGE kV	CORES X CROSS SECTION Nr x mm ²	CONDUCTOR Ø mm	MIN OVERALL Ø mm	MAX OVERALL Ø mm	APPROX WEIGHT kg/km	MAX TENSILE LOAD N
8,7/15	3x25 + 2x25/2 + FO	6,8	52,0	55,0	3680	1500
8,7/15	3x35 + 2x25/2 + FO	7,8	55,2	58,2	4310	2100
8,7/15	3x50 + 2x25/2 + FO	9,4	58,4	61,4	5020	3000
8,7/15	3x70 + 2x35/2 + FO	11,2	62,1	66,0	6170	4200
8,7/15	3x95 + 2x50/2 + FO	12,7	67,2	71,2	7380	5700

2/20	3x25 + 2x25/2 + FO	6,8	58,0	61,0	4490	1500
12/20	3x35 + 2x25/2 + FO	7,8	59,4	62,4	4830	2100
12/20	3x50 + 2x25/2 + FO	9,4	64,3	68,2	5840	3000
12/20	3x70 + 2x35/2 + FO	11,2	68,1	72,1	7030	4200

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.

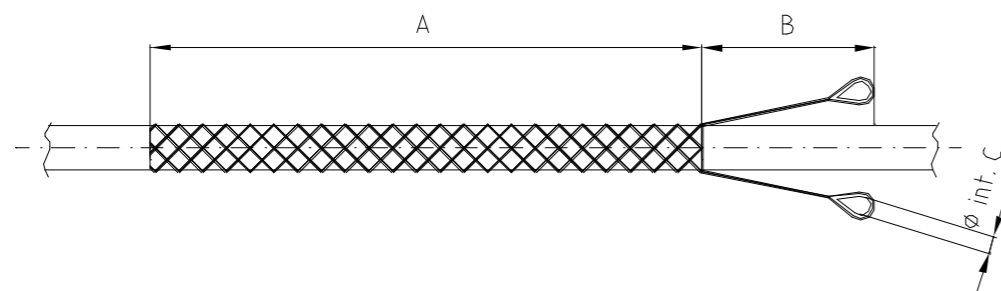
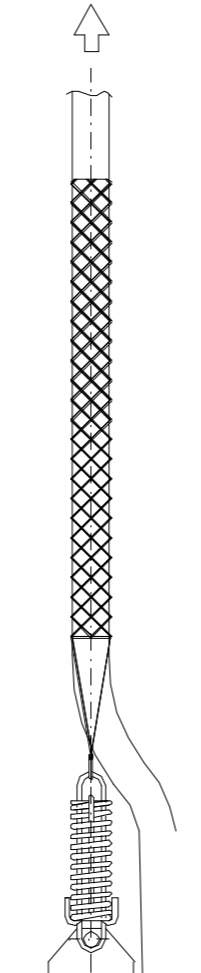


CABLE SOCKS AND SPRINGS

MAIN APPLICATION

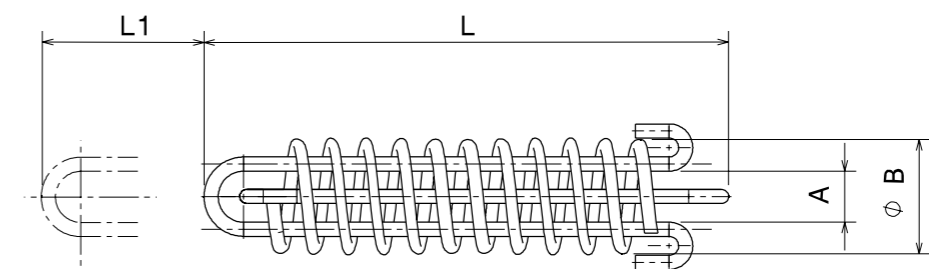
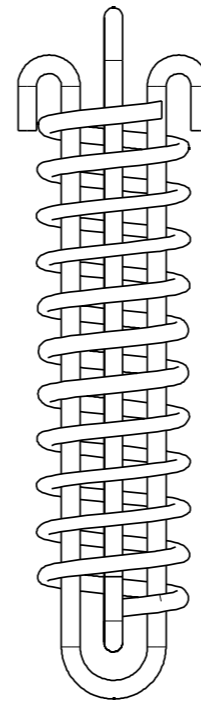
Cable socks are used for the suspension, the traction and the safe anchoring of the cables. They are extremely suitable for anchoring the cable that must be made being careful not to leave the cable stretched (you have to create a loop), in order not to stress the cable. It is convenient to insert between the cable socks and the anchoring point a spring, when some discontinuous and strong stresses traction are applied on the cable.

≠Standard cable socks are galvanized; on demand in stainless steel. Standard springs are cadmium plated, on demand in stainless steel.



TYPE	Ø CABLE min/max	A mm	B mm	C mm	Weight KG	Max Trac. (N)
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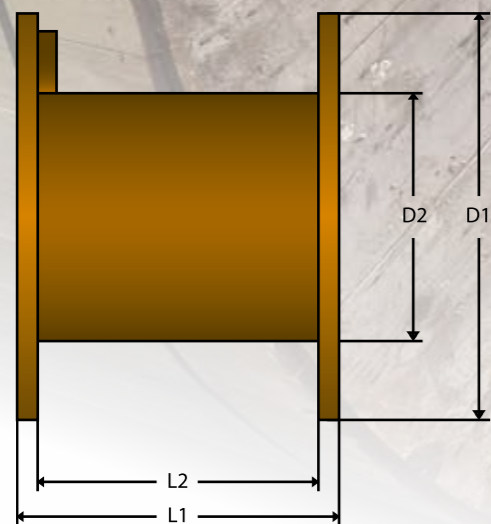
CT 10-20	10-20	650	200	16	0,35	4320
CT 20-30	20-30	650	200	16	0,4	5500
CT 25-45	25-45	800	250	18	0,5	8240
CT 45-60	45-60	800	250	18	0,6	9800



TYPE	FORCE (N)	A mm	B mm	L mm	L1 mm
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20K	200	13	25	220	80
40K	400	10	27	220	80
80K	800	20	43	360	120
150K	1500	30	65	280	110
250K	2500	37	76	360	150

DRUM DIMENSIONS AND WEIGHT



TYPE (n)	D1 mm	D2 mm	L2 mm	L1 mm	NET WEIGHT kg	BULK SPACE kg/km	VOLUME (STAVED) mm ²
06	630	315	335	410	16	0.34	0.23
07	710	355	420	495	20	0.45	0.33
08	800	400	470	545	28	0.54	0.46
09	900	450	470	565	36	0.63	0.59
10	1000	500	580	675	55	0.81	0.84
12	1250	630	630	740	85	1.09	1.42
14	1400	710	750	870	125	1.41	2.04
16	1600	900	900	1055	190	1.92	3.18
18	1800	1120	1140	1315	270	2.63	4.90
20	2000	1250	1140	1325	365	2.94	6.05
22R	2240	1300	1000	1185	450	2.96	6.80
22	2240	1400	1140	1325	480	3.28	7.54
25	2450	1500	1140	1325	600	3.58	8.98
26S	2600	1600	1140	1365	770	3.90	10.37
25S	2450	1250	1140	1325	600	3.58	8.98
25S pal	2450	1250	1270	1455	650	3.90	9.80
26S pal	2600	1250	1270	1455	800	3.56	11.00

On the above table you can find our most common types of drum. For each one also we provide internal and external dimensions, weight, bulk space and volume. Please consider that a staved drum increase its dimension D1 of 5 mm in total.