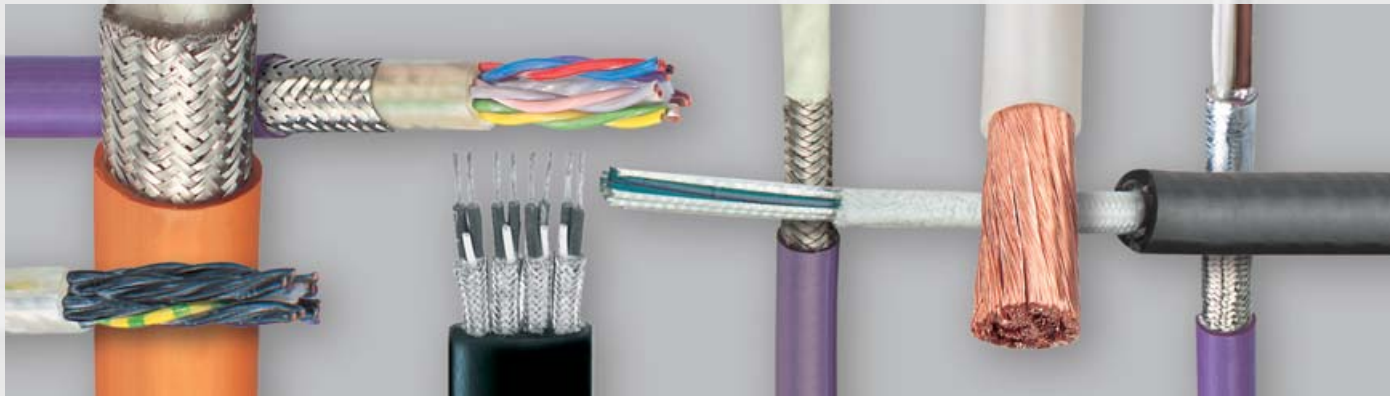


Product Overview

Cables







Known brands - provided by experts

Advantage 1

Safe choice of cables

- understanding the needs of our customers' applications, we offer the safety of the right cable matched to specific requirements

Advantage 2

System compatibility

- the cable design can significantly influence the performance of the energy and/or data supply system - we ensure the proper alignment of the cable to the system for optimum energy and data transfer

Advantage 3

Producer independence

- only the performance of the cable is important to us, not its origin - we neutrally choose only the best cables available on the market

Advantage 4

System guarantee

- each complete Wampfler System is provided with a comprehensive guarantee - needless to say, including the cable

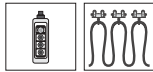




Advantage 5

Wampfler cable service

- the graded Wampfler Services ensure the reliability of our systems and the availability of our customers' equipment












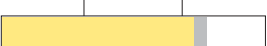


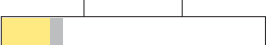



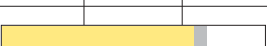



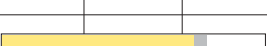







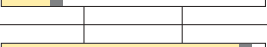







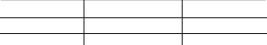


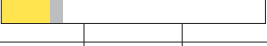










Content

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• Cables for festoon systems		6
• Cables for energy guiding chains		32
• Cables for cable reels		48
• Technical exhibit		70
• Wampfler cable service		74



At a glance

The right cable for every application

Wampfler cable	Sheath material	Main application	Secondary application	Mechanical load-bearing capacity	
				small	large
F-1	 PVC				
FP-1	 PVC				
FX-2	 rubber				
T-3	 rubber				
TXG-4	 rubber				
TXP-4	 PUR				
C-5	 PVC				
CXG-6	 rubber				
CXP-6	 PUR				
R-7	 PUR				
RXG-8	 rubber				
RXP-8	 PUR				
W-9	 rubber				
WX-10	 rubber				

Brand/Type index:

Buflex | R-7
Festoonflex | TXP-4
LifeLine PVC | C-5
Protolon (M)-R | W-9
Rondoflex Chain | CXG-6

Boitalyon | FP-1
H07RN-F | T-3
LifeLine PUR | CXP-6
Protolon SMK | WX-10
Trommelflex PUR | RXP-8

Cordaflex SMK-V | RXG-8
H07VVH6-F | F-1
NGFLGÖU | FX-2
Rondoflex, Optoflex | TXG-4

 festoon systems

 pendant control stations

 energy guiding chains

 spring and motorized cable reels

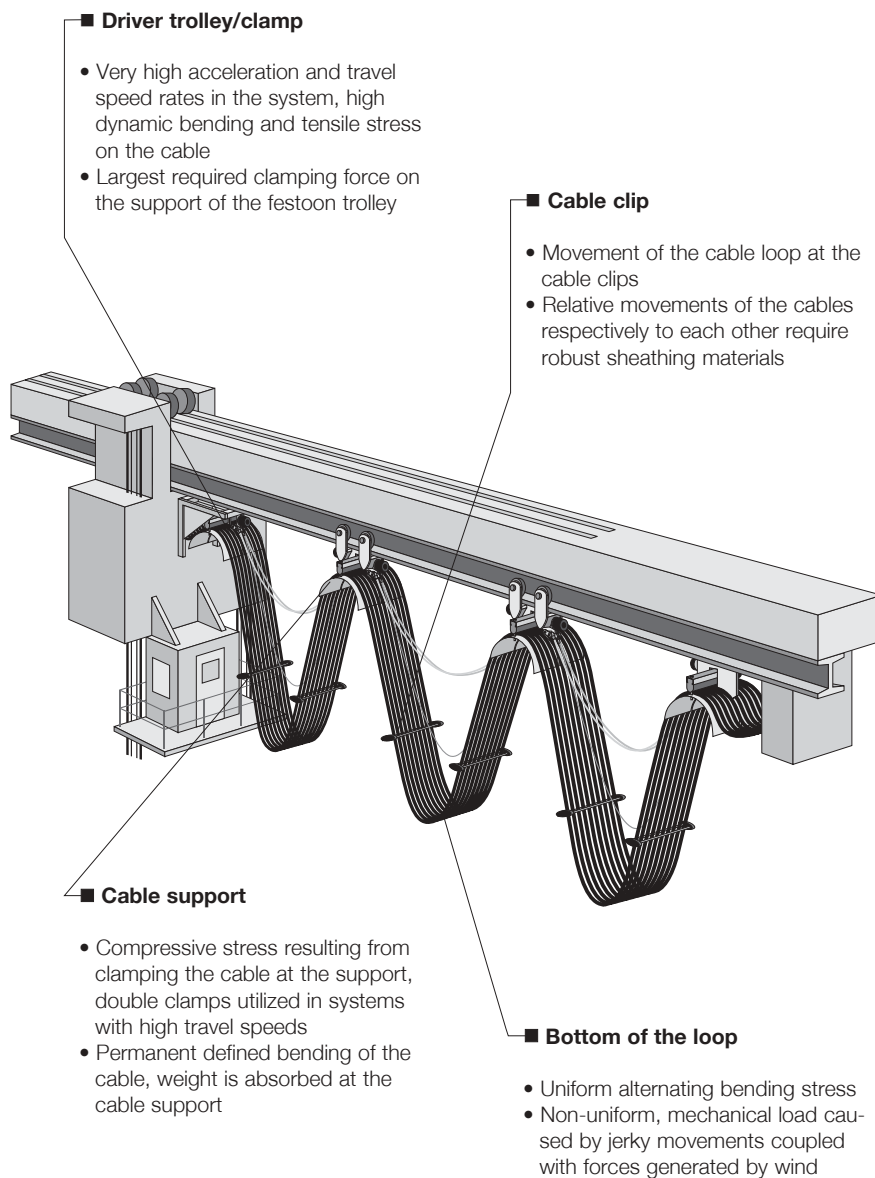
	Dimensions		Price level		Suitability for external application	Maximum travel speed v [m/min]	Temperature range, flexing [°C]	Page
	large	small	high	low				
					●	180	-20 °C ... +60 °C	8
					●	n.a.	-25 °C ... +60 °C	12
					●	180	-25 °C ... +85 °C	16
					●	120	-30 °C ... +60 °C	20
					●	250	-35 °C ... +60 °C	24
					●	210	-40 °C ... +90 °C	28
					●	180	-5 °C ... +70 °C	34
					●	300	-35 °C ... +80 °C	38
					●	250	-30 °C ... +80 °C	42
					●	100	-20 °C ... +70 °C	50
					●	160 ... 180	-35 °C ... +60 °C	54
					●	180	-40 °C ... +80 °C	58
					●	80	-25 °C ... +60 °C	62
					●	240	-35 °C ... +60 °C	66

● ideal
● limited



Wampfler Cables for festoon systems

Special points as subject to stress



F-1

FP-1

FX-2

T-3

TXG-4

TXP-4

Special features

- low weight and small diameter due to a stranded, layered structure and in the case of power cables, the earth conductor is split into three parts
- resistant to alternating bending loads due to finely stranded conductors
- sheathing compounds with very high resistance to outdoor atmospheric conditions
- notch-resistant sheathing compounds with high resistance to tearing, highly resistant to stress caused by continuous bending at the bottom of the loop
- robust outer sheath designed to absorb impact forces
- high axial rigidity and resilience due to pressure filled extrusion in interstices
- highly resilient cables allow the smallest possible bending radius and therefore, short system lengths

Load-bearing capacity	low		high
Dimensions	large		small
Price level	high		low

Wampfler Cable F-1

PVC flat cable



Compact design by minimised wall thicknesses

Small & favourable sizes of festoon trolleys resulting from minimised wall thicknesses & weights

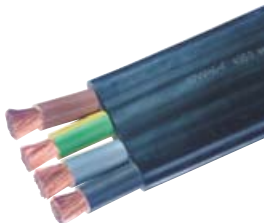
Large range of possible applications thanks to broadband PVC with ductile additives for core insulation and sheathing

Simple insulation by means of coaxial extrusion used for conductor insulation

Durability due to the additives designed to prevent deterioration of the outer sheath

All requirements can be met with a broad range of standard sizes between 0.5 and 95 mm²

Complete series including screened cables and special types



Characteristics

Resilient PVC flat cable

main application: festoon trolley
secondary application: energy guiding profile Mamba

Typical applications

- indoor crane trolleys
- indoor crane main power supply
- process cranes
- transfer cars
- storage and retrieval systems
- hoists

Electrical parameters

rated voltage $U_0/U = 450/750$ V
power/ control cables with a diameter from 1.5 mm² and special cables

$U_0/U = 300/500$ V
screened cables & control cables with a diameter up to 1 mm²

Mechanical load-bearing capacity

travel speed up to 180 m/min
minimum bending radius $5 \times d$

Thermal / Chemical specifications

ambient temperature
- flexing - 20 °C... + 60 °C
- fixed - 30 °C... + 60 °C

resistance to atmospheric corrosion to ozone and water, UV stable

Important features

- self-extinguishing and flame retardant
- resistant to humidity
- resistant to oils and grease
- LBS-free / silicone-free

Design features

conductor flexible (cat. 5) according to DIN VDE 0295
sheath ductile PVC compound
core insulation coaxial PVC extrusion

Type H07VVH6-F

Particularly suitable, if...

- used for standard, indoor applications
- small to medium dynamic loads are applied to the system on a single plane
- the priority is a very cost-effective system
- festoon trolleys / festoon systems need to be kept to the smallest possible size due to space limitations
- the operating temperatures do not exceed 60°C

Wampfler Cable F-1

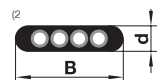
Order information



Type of cable	Number of conductors and cross section	Order No.	Geometry d - B ¹² [mm]	Weight approx. [kg/100m]	Ampacity I _B [A] ¹¹	Permitted tensile load [N]
Control cables H05VVH6-F	16 G 1	0331- 16 G 1#	8.1 - 25.6	40.0	7.6	240
	24 G 1	0330- 24 G 1#	4.4 - 70.0	60.0	6.3	360
Control cables H07VVH6-F	4 G 1.5	0325- 4 G 1,5#	5.5 - 15.5	15.0	18.9	90
	5 G 1.5	0325- 5 G 1,5#	5.5 - 18.5	18.0	16.1	110
	8 G 1.5	0325- 8 G 1,5#	5.5 - 29.3	30.0	12.3	180
	8 x 1.5	0328- 8 x 1,5#	5.5 - 29.3	30.0	11.6	180
	10 G 1.5	0325- 10 G 1,5#	5.5 - 35.2	36.0	10.5	220
	12 G 1.5	0325- 12 G 1,5#	5.5 - 41.0	42.0	10.0	270
	12 x 1.5	0325- 12 x 1,5#	5.5 - 41.0	42.0	9.5	270
	14 G 1.5	0325- 14 G 1,5#	5.5 - 48.0	49.0	9.5	310
	16 G 1.5	0325- 16 G 1,5#	5.5 - 54.0	56.0	8.9	360
	18 G 1.5	0325- 18 G 1,5#	5.0 - 58.0	63.0	8.9	400
	24 G 1.5	0325- 24 G 1,5#	5.1 - 82.0	86.0	7.6	540
	4 G 2.5	0325- 4 G 2,5#	6.0 - 18.5	21.0	27.3	150
	5 G 2.5	0325- 5 G 2,5#	6.0 - 22.3	26.0	23.2	180
	8 G 2.5	0325- 8 G 2,5#	6.0 - 34.2	40.5	17.7	300
	12 G 2.5	0325- 12 G 2,5#	6.0 - 50.2	62.0	14.4	450
	24 G 2.5	0325- 24 G 2,5#	5.7 - 97.0	126.0	10.9	900

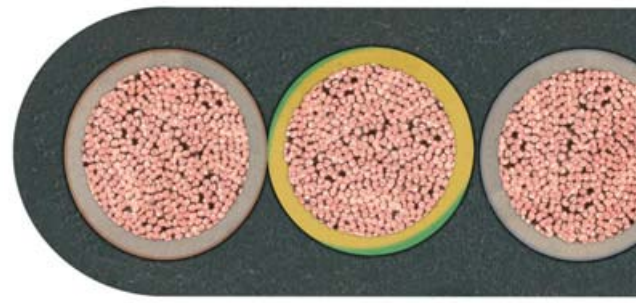
preferred series, short-term delivery

¹¹ The ampacity I_B is based on an ambient temperature of 30°C, individual free cabling in the air at 100% duty. Varying environmental conditions, method of operation and cabling arrangement can result in considerably different ampacities (s. technical exhibit).



Wampfler Cable F-1

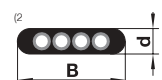
Order information



Type of cable	Number of conductors and cross section	Order No.	Geometry d - B ² [mm]	Weight approx. [kg/100m]	Ampacity I _B [A] [†]	Permitted tensile load [N]
Power cables, 1-core H07VVH6-F	4 G 4	0325- 4 G 4#	7.0 - 21.0	30.0	35.7	240
	4 G 6	0325- 4 G 6#	7.5 - 23.0	38.5	46.2	360
	4 G 10	0325- 4 G 10#	9.5 - 29.0	62.0	64.1	600
	4 G 16	0325- 4 G 16#	11.0 - 37.0	99.0	86.1	960
	4 G 25	0326- 4 G 25#	13.3 - 42.0	155.0	113.4	1.500
	4 G 35	0334- 4 G 35#	15.0 - 50.5	203.0	141.8	2.100
	4 G 50	0334- 4 G 50#	16.5 - 55.5	265.0	176.4	3.000
	4 G 70	0334- 4 G 70#	18.5 - 63.5	365.0	217.4	4.200
	4 G 95	0334- 4 G 95#	21.0 - 73.0	455.0	262.5	5.700
	5 G 4	0325- 5 G 4#	7.0 - 25.5	38.0	26.8	300
	5 G 6	0325- 5 G 6#	7.5 - 28.2	48.0	34.7	450
	5 G 10	0325- 5 G 10#	9.5 - 35.5	78.0	48.1	750
	5 G 16	0325- 5 G 16#	11.0 - 43.5	117.9	73.2	1.200
Screened Control cables, screened individual conductors YCFLY-O	4 x 1.5 C	0320- 4 x 1,5C#	6.0 - 18.5	22.0	12.6	60
	8 x 1.5 C	0320- 8 x 1,5C#	6.0 - 34.2	43.0	15.1	90
	12 x 1.5 C	0320- 12 x 1,5C#	6.0 - 50.2	65.0	10.0	270
Screened Power cables, screened individual conductors YCFLY-J	4 G 4 x 1 C	0322- 4 G 4 x 1C#	11.3 - 35.2	62.5	7.4	240
	4 G 2.5 C	0321- 4 G 2,5C#	7.4 - 22.0	27.0	23.2	150
	4 G 4 C	0321- 4 G 4C#	7.5 - 23.0	36.0	35.7	240
	4 G 6 C	0321- 4 G 6C#	9.5 - 29.0	58.0	46.2	360
	4 G 10 C	0321- 4 G 10C#	11.0 - 37.0	90.0	64.1	600
	4 G 16 C	0321- 4 G 16C#	13.3 - 42.0	128.0	86.1	960
	4 G 25 C	0321- 4 G 25C#	15.0 - 50.5	180.0	113.4	1.500
	4 G 35 C	0321- 4 G 35C#	16.5 - 55.5	230.0	141.8	2.100
4 G 50 C	0321- 4 G 50C#	18.0 - 63.0	288.0	176.4	3.000	
Control cables YFLY-O	7 x 4 x 0.5	0504- 7 x 4 x 0,5#	9.6 x 46.6	67.5	2.1	210
Control cables YFLY-J	7 x 3 x 1	0503- 7 x 3 x 1#	9.6 x 46.6	71.0	6.6	310
Screened Control cables YCFLY-O	5 x 4 x 0.5C	0508- 5 x 4 x 0,5C#	9.9 x 35.3	51.4	2.1	150
	7 x 4 x 0.5C	0508- 7 x 4 x 0,5C#	9.9 x 46.8	74.5	2.1	210
	7 x 2 x 0.75C	0508- 7 x 2 x 0,75C#	9.9 x 46.8	72.1	6.6	150
Screened control cables YFLCY-J	7 x 3 x 1C	0507- 7 x 3 x 1C#	9.9 x 46.8	75.5	6.6	310

preferred series, short-term delivery

[†] The ampacity I_B is based on an ambient temperature of 30°C, individual free cabling in the air at 100% duty. Varying environmental conditions, method of operation and cabling arrangement can result in considerably different ampacities (s. technical exhibit).



Wampfler Cable F-1

Technical data



		H05VH6-F/YCFLY	H07VVH6-F	YFLY / YFLCY
Electrical parameters	rated voltage	U ₀ /U = 300/500 V	U ₀ /U = 450/750 V	U ₀ /U = 450/750 V
	maximum permitted AC operating voltage	U ₀ /U = 318/550 V	U ₀ /U = 476/825 V	U ₀ /U = 476/825 V
	maximum permitted DC operating voltage	U ₀ /U = 413/825 V	U ₀ /U = 619/1238 V	U ₀ /U = 619/1238 V
	ampacity	accord. to table data, otherwise accord. to DIN VDE 0298 part 4		
	AC test voltage	2 kV	2.5 kV	2.5 kV
Thermal parameters	ambient temperature	flexing	-20 °C to + 60 °C	-20 °C to + 60 °C
		fixed	-30 °C to + 60 °C	-30 °C to + 60 °C
	maximum permitted operating temperature of the conductor	70 °C		
	short-circuit temperature of the conductor	150 °C		
Mechanical parameters	minimum bending radii allowing for free movement	d < 8 mm	: 3 x d	
		d = 8 to 12 mm	: 4 x d	
		d > 12 mm	: 5 x d	
	tensile load-bearing capacity	15 N/mm ² during operation for moving cables according to DIN VDE 0298 part 3		
Chemical parameters	LBS-free / silicone-free	yes		
	combustion behaviour	flame retardant and self-extinguishing according to DIN VDE 0482 part 265-2-1, IEC 60332-1		
	resistant to ozone	yes		
	resistant to humidity	yes (waterproof)		
	UV-resistant	yes		
	oil-resistant	yes		
	halogen free	no		
Materials	insulation	base material polyvinylchloride (PVC)		
	outer sheath	base material polyvinylchloride (PVC), colour black RAL9005		
Design features	conductor	bare electrolytic copper, flexible, cat. 5 accord. to DIN VDE 0295		
	shield	copper yarn, coverage of approx. 75 %	tin-plated braided copper wires or copper covering	
	stranding	conductors or bundles		
	conductor coding	accord. to DIN VDE 0293, part 308 up to 5 conductors coloured, 6 or more conductors black with white numbers with or without green/yellow		
Standards		H05VH6-F	DIN VDE 0281 part 403	
		YCFLY	adapted to DIN VDE 0250	
Design codes	harmonised cable H05VH6-F / H07VVH6-F	H07VVH6-F	DIN VDE 0281 part 404	
		YFLY / YFLCY	adapted to DIN VDE 0250	
Design codes	not harmonised cable YCFLY / YFLY / YFLCY	H	harmonised standard	
		O5	rated voltage 300 / 500 V	
		O7	rated voltage 450 / 750 V	
		V	polyvinylchloride (PVC)	
		H6	flat cable according to HD 359 with 3 or more conductors	
		-F	flexible cable, category 5	
		Y	PVC material	FL flat cable
		C	conducting metallic covering surrounding the stranded core (shield), in form of foil or braid	
		J	with a green/yellow identification of the earth/ground conductor	
		O	without a green/yellow identification of the earth/ground conductor	



Load-bearing capacity	low		high
Dimensions	large		small
Price level	high		low

Wampfler Cable FP-1

PVC pendant control station round cable



Compact design with the use of a 2-layer stranding

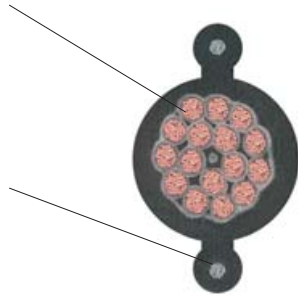
Simple insulation by means of coaxially extruded conductor insulation material

Particularly long free-hanging lengths (50 m) provided by the integration of two resilient steel cables into the outer sheath

Durability due to the additives designed to prevent deterioration of the outer sheath

Easy installation due to the simple separation of the steel supporting cables from the main cable

A broad product line with 5 to 30 conductor configurations available



Characteristics

Resilient PVC round cable with two integrated steel ropes

main application: pendant control station for crane systems

Typical applications

- pendant control station for trolleys of indoor cranes
- passenger and goods hoists
- applications with up to 50 m of vertical freely hanging cable

Electrical parameters

rated voltage $U_0/U = 300/500$ V
for fixed cabling permitted up to 1.000 V

Mechanical load-bearing capacity

tensile stress 2,500 N
minimum bending radius $5 \times d$

Thermal / Chemical specifications

ambient temperature
- flexing - 25 °C... + 60 °C
- fixed - 40 °C... + 60 °C

resistance to atmospheric corrosion to ozone, UV and water

Important features

- self-extinguishing and flame retardant
- resistant to humidity
- resistant to oils and grease
- LBS-free / silicone-free

Design features

conductor flexible, category 5
sheath ductile PVC compound
core insulation PVC in coaxial extrusion

Brand Boitalyon

Particularly suitable, if...

- a control cable needs to be connected hanging freely over a distance of maximum 50 m
- used for standard, indoor applications
- a cost-effective solution for transfer of control signals from a pendant control station is required
- the cable is potentially subject to high tensile stress
- the operating temperatures do not exceed 60 °C

Wampfler Cable FP-1

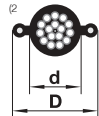
Order information

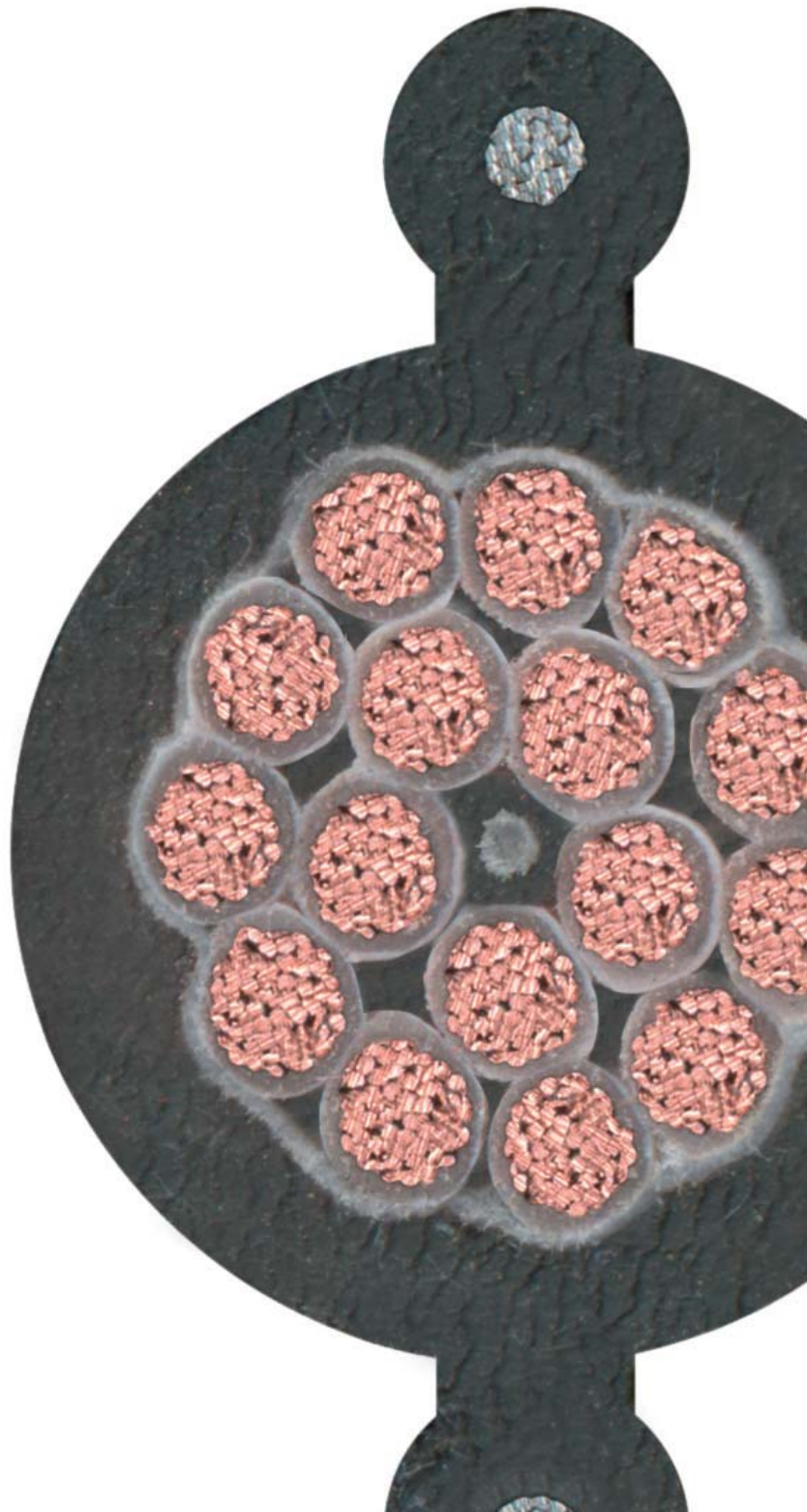


Type of cable	Number of conductors and cross section	Order No.	Outer diameter d / D ² [mm]	Weight approx. [kg/100m]	Ampacity I _B [A] ¹	Permitted tensile load [N]
Control cables MTTY-O	5 x 1.5	0609- 5 x 1,5#	11.0 - 21.0	21.0	18.0	2.500
	8 x 1.5	0609- 8 x 1,5#	16.0 - 25.5	30.0	15.0	2.500
	12 x 1.5	0609- 12 x 1,5#	17.0 - 26.5	35.0	12.6	2.500
	16 x 1.5	0609- 16 x 1,5#	17.5 - 27.5	44.0	11.3	2.500
	20 x 1.5	0609- 20 x 1,5#	20.0 - 29.5	52.0	10.6	2.500
	24 x 1.5	0609- 24 x 1,5#	23.8 - 38.8	90.0	9.6	2.500
	30 x 1.5	0609- 30 x 1,5#	23.0 - 33.0	70.0	8.9	2.500

preferred series, short-term delivery

¹ The ampacity I_B is based on an ambient temperature of 30°C, individual free cabling in the air at 100% duty. Varying environmental conditions, method of operation and cabling arrangement can result in considerably different ampacities (s. technical exhibit).





Wampfler Cable FP-1

Technical data



		MTTY-O
Electrical parameters	rated voltage	U ₀ /U = 300/500 V
	maximum permitted AC operating voltage	U ₀ /U = 318/550 V
	maximum permitted DC operating voltage	U ₀ /U = 413/825 V
	ampacity	accord. to table data, otherwise accord. to DIN VDE 0298 part 4
	AC test voltage	2 kV
Thermal parameters	ambient temperature	flexing -25 °C to + 60 °C
		fixed -40 °C to + 60 °C
	maximum permitted operating temperature of the conductor	70 °C
	short-circuit temperature of the conductor	200 °C
Mechanical parameters	minimum bending radius allowing for free movement	5 x d
	tensile load-bearing capacity	15 N/mm ² during operation for moving cables according to DIN VDE 0298 part 3, steel support ropes provide 2.500 N of strain relief
Chemical parameters	LBS-free / silicone-free	yes
	combustion behaviour	flame retardant accord. to DIN VDE 0482 part 265-2-1, IEC 60332-1
	resistant to ozone	yes
	resistant to humidity	yes
	UV-resistant	yes
	resistant to oil	yes
	halogen free	no
Materials	insulation	base material polyvinylchloride (PVC) compound Y12
	outer sheath	base material polyvinylchloride (PVC), colour black, compound YM2
Design features	conductor	bare electrolytic copper, flexible, cat. 5 accord. to DIN VDE 0295
	reinforcement	two outer steel cables incorporated into the outer sheath
	conductor coding	accord. to DIN VDE 0293, part 308 up to 5 conductors coloured, 6 or more conductors black with white numbers with or without green/yellow
Standards	adapted to DIN VDE 0250	
Note	assembly	For proper strain relief the steel support cables must be installed in such a way as they absorb the load. The mobility of conductors may not be restricted by clamps.
Design codes	MTTY-O	M sheath cable T reinforcement element Y PVC material -O without earth/ground conductor green/yellow

Load-bearing capacity	low		high
Dimensions	large		small
Price level	high		low

Wampfler Cable FX-2

Neoprene flat cable



Reduced required space

by means of flexible and highly flexible conductors for smaller bending radii

High resistance to temperature thanks to core insulation materials, resistant up to 90 °C

Fire resistant with rubber compounds of low flammability

Durability as a result of a robust and wear-resistant outer sheath

Complete assortment of unscreened and screened cables

Broad product line with conductor diameters from 1 mm² to 120 mm²



Characteristics

Resilient rubber flat cable

main application: festoon trolleys subject to high tensile load

Typical applications

- power supply for trolleys of indoor and process cranes
- transport systems/transfer cars
- longitudinal scrapers in sewage treatment plants
- car-wash plants
- foundries and steel production plants
- storage and retrieval systems

Electrical parameters

rated voltage $U_0/U = 300/500$ V
 $U_0/U = 600/1.000$ V on request

Mechanical load-bearing capacity

travel speed up to 180 m/min
(> 180 m/min on request)
minimum bending radius 5 x d

Thermal / Chemical specifications

ambient temperature
- flexing - 25 °C... + 85 °C
- fixed - 40 °C... + 85 °C

resistance to atmospheric corrosion unlimited

Important features

- fire resistant
- resistant to ozone
- resistant to humidity
- resistant to oil
- UV-resistant
- LBS-free / silicone-free

Design features

conductor highly flexible (category 6) up to 25 mm²
flexible (category 5) up to 35 mm²
according to DIN VDE 0295

sheath wear-resistant polychloroprene (PCP)
core insulation rubber compound
resistant to very high temperatures
basis ethylene-propylene-rubber (EPR)

Type NGFLGÖU
GCFLGÖU

Particularly suitable, if...

- middle to high dynamic loads are applied to the system on a single plane
- there is a high need for a robust and long term solution
- the festoon trolleys / the festoon systems need to be kept to the smallest possible size due to space limitations
- a UL listed cable is required
- the operating temperatures can reach 85°C

Wampfler Cable FX-2

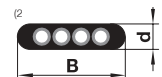
Order information



Type of cable	Number of conductors and cross section	Order No.	Geometry d - B ⁽²⁾ [mm]	Weight approx. [kg/100m]	Ampacity I _B [A] ⁽¹⁾	Permitted tensile load [N]	
Control cables NGFLGÖU-J	4 G 1.5	0401- 4 G 1,5#	6.4 - 17.0	22.0	18.9	90	
	5 G 1.5	0401- 5 G 1,5#	6.4 - 21.5	24.0	16.1	115	
	7 G 1.5	0401- 7 G 1,5#	6.4 - 29.1	30.0	13.2	160	
	8 G 1.5	0401- 8 G 1,5#	6.4 - 32.0	40.0	12.3	180	
	10 G 1.5	0401- 10 G 1,5#	7.0 - 40.7	60.0	10.8	225	
	12 G 1.5	0401- 12 G 1,5#	7.0 - 47.5	63.0	10.1	270	
	24 G 1.5	0407- 6 G 4 x 1,5#	12.1 - 52.7	105.0	7.8	540	
	4 G 2.5	0401- 4 G 2,5#	7.8 - 20.7	29.0	27.3	150	
	5 G 2.5	0401- 5 G 2,5#	7.8 - 23.0	34.0	23.2	190	
	7 G 2.5	0401- 7 G 2,5#	7.8 - 33.0	54.0	18.3	260	
	8 G 2.5	0401- 8 G 2,5#	7.8 - 38.0	58.5	17.7	300	
	12 G 2.5	0401- 12 G 2,5#	8.2 - 54.8	87.0	14.7	450	
	24 G 2.5	0408- 6 G 4 x 2,5#	15.8 - 69.2	173.0	11.2	900	
	Power cables NGFLGÖU-J	4 G 4	0401- 4 G 4#	9.1 - 24.8	47.0	35.7	240
		4 G 6	0401- 4 G 6#	9.9 - 27.9	62.0	46.2	360
		4 G 10	0401- 4 G 10#	11.2 - 33.3	96.0	64.1	600
		4 G 16	0401- 4 G 16#	13.0 - 38.7	135.0	86.1	960
		4 G 25	0401- 4 G 25#	14.7 - 46.0	240.0	113.4	1.500
4 G 35		0401- 4 G 35#	17.6 - 53.2	272.0	141.8	2.100	
4 G 50		0401- 4 G 50#	20.1 - 62.0	310.0	176.4	3.000	
4 G 70		0401- 4 G 70#	23.0 - 71.0	415.0	217.4	4.200	
4 G 95		0401- 4 G 95#	25.5 - 81.0	521.0	262.5	5.700	
4 G 120		0401- 4 G 120#	28.0 - 91.0	611.0	306.6	7.200	
5 G 4		0401- 5 G 4#	9.0 - 32.0	56.0	30.3	300	
5 G 6		0401- 5 G 6#	9.7 - 34.0	65.0	39.3	450	
5 G 16		0401- 5 G 16#	13.0 - 50.0	145.0	73.2	1.200	
5 G 25		0401- 5 G 25#	16.0 - 56.0	220.0	102.7	1.875	

preferred series, short-term delivery

⁽¹⁾ The ampacity I_B is based on an ambient temperature of 30°C, individual free cabling in the air at 100% duty. Varying environmental conditions, method of operation and cabling arrangement can result in considerably different ampacities (s. technical exhibit).



Wampfler Cable FX-2

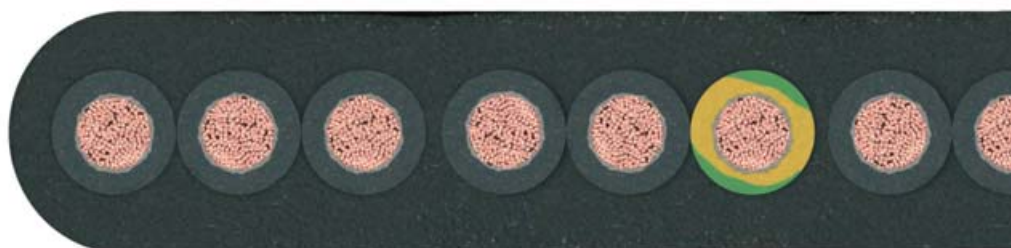
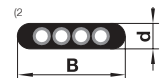
Order information



Type of cable	Number of conductors and cross section	Order No.	Geometry d - B ¹² [mm]	Weight approx. [kg/100m]	Ampacity I _B [A] ¹	Permitted tensile load [N]
Screened Control cables, screened individual conductors GCFLGÖU-J	4 G 1.5 C	0405- 4 G 1,5 C#	8.0 - 22.5	29.1	18.9	90
	8 G 1.5 C	0405- 8 G 1,5 C#	8.0 - 41.1	53.7	12.3	180
	12 G 1.5 C	0405- 12 G 1,5 C#	8.0 - 59.8	79.5	10.1	270
	4 G 2.5 C	0405- 4 G 2,5 C#	8.6 - 24.2	43.7	27.3	150
	12 G 2.5 C	0405- 12 G 2,5 C#	8.6 - 65.1	100.4	14.7	450
	Screened control cables, screened pairs of conductors GCFLGÖU-O	4 x 2 x 1C	0406- 4 x 2 x 1C#	11.4 - 33.8	66.3	9.8
7 x 2 x 1C		0406- 7 x 2 x 1C#	11.4 - 56.0	115.0	7.9	210
Screened power cables, screened individual conductors GCFLGÖU-J	4 G 4 C	0405- 4 G 4C#	10.4 - 29.8	50.5	35.7	240
	4 G 6 C	0405- 4 G 6C#	11.0 - 32.2	59.5	46.2	360
	4 G 10 C	0405- 4 G 10C#	12.3 - 37.4	85.5	64.1	600
	4 G 16 C	0405- 4 G 16C#	14.0 - 42.4	116.0	86.1	960
	4 G 25 C	0405- 4 G 25C#	15.7 - 50.2	164.0	113.4	1.500
	4 G 35 C	0405- 4 G 35C#	17.0 - 55.0	252.0	141.8	2.100
	4 G 50 C	0405- 4 G 50C#	20.7 - 68.0	303.0	176.4	3.000
	4 G 70 C	0405- 4 G 70C#	24.0 - 76.8	465.0	217.4	4.200

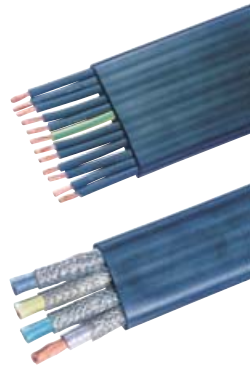
preferred series, short-term delivery

¹ The ampacity I_B is based on an ambient temperature of 30°C, individual free cabling in the air at 100% duty. Varying environmental conditions, method of operation and cabling arrangement can result in considerably different ampacities (s. technical exhibit).


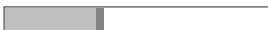



Wampfler Cable FX-2

Technical data



		NGFLGÖU, (N)GFLGÖU, GCFLGÖU
Electrical parameters	rated voltage	U ₀ /U = 300/500 V (600/1.000 V on request)
	maximum permitted AC operating voltage	U ₀ /U = 318/550 V
	maximum permitted DC operating voltage	U ₀ /U = 413/825 V
	ampacity	accord. to table data, otherwise accord. to DIN VDE 0298 part 4
	AC test voltage	2 kV
Thermal parameters	ambient temperature	flexing -25 °C to + 85 °C fixed -40 °C to + 85 °C
	maximum permitted operating temperature of the conductor	90 °C
	short-circuit temperature of the conductor	250 °C
Mechanical parameters	minimum bending radii allowing for free movement	5 x d
	tensile load-bearing capacity	15 N/mm ² during operation for moving cables according to DIN VDE 0298 part 3
Chemical parameters	LBS-free / silicone-free	yes
	combustion behaviour	low flammability according to DIN VDE 0482 part 265-2-1, IEC 60332-1, IEC 60332-1
	resistant to ozone	yes
	resistant to humidity	yes
	UV-resistant	yes
	resistant to oil	yes
	halogen free	no
Materials	insulation	base material ethylene-propylene-rubber (EPR)
	outer sheath	base material polychloroprene (PCP)
Design features	conductor	bare electrolytic copper, highly flexible, category 6 up to 25 mm ² according to DIN VDE 0295 bare electrolytic copper, flexible, category 5 up to 35 mm ² according to DIN VDE 0295
	shield	tin-plated braided copper wires coverage of approx. 60 % in case of screened conductors coverage of approx. 80 % in case of screened pairs of conductors
	stranding	conductors or bundles
	conductor coding	accord. to DIN VDE 0293, part 308 up to 5 conductors coloured, 6 or more conductors black with white numbers with or without green/yellow
Standards		adapted to DIN VDE 0250
Design codes	harmonised cable NGFLGÖU, (N)GFLGÖU, GCFLGÖU	N corresponds with a VDE standard
		(N) adapted to a VDE standard
		G rubber sheath
		FL flat cable
		G rubber insulation
		Ö oil-resistant cable
		U outer sheath of low flammability according to DIN VDE 0472 part 804
		C inner shield / screen for individual conductors / screen for pairs of conductors

Load-bearing capacity	low		high
Dimensions	large		small
Price level	high		low

Wampfler Cable T-3

Rubber round cable



Highly stable construction with the use of rubber filler between the conductors and the sheath

Robust standard cable resulting from cross-linked inner and outer sheaths

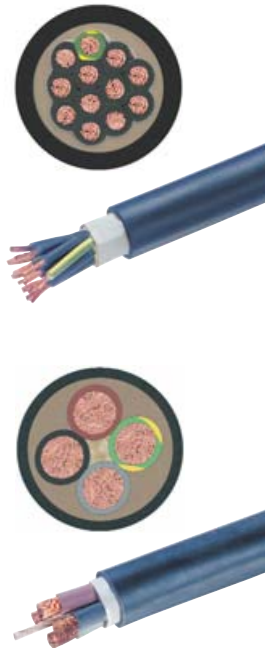
Good resilience as a result of short strands

Special sheath additives allow for **use in industrial water**

Complete selection of control and power cables

Favourable cost/performance ratio thanks to standardised sheaths and insulation materials

Safe fire-preventing properties as a result of flame retardant and self-extinguishing materials



Particularly suitable, if...

- small to medium dynamic loads are applied to the system on a single plane
- an unlimited resistance to atmospheric corrosion is required
- the priority is a cost-effective but also durable cable
- the application requires the use of cable in or around industrial water
- the cold temperatures reach down to -30 °C

Characteristics

Resilient rubber round cable

main application: festoon trolley

Typical applications

- process cranes, power supply for cranes and trolleys
- dockyard cranes
- travel cars
- longitudinal scrapers in sewage treatment plants
- car-wash plants
- Stackers & Reclaimers

Electrical parameters

rated voltage $U_0/U = 450/750$
 $U_0/U = 600/1,000$ V on request for fixed cabling permitted up to 1,000 V

Mechanical load-bearing capacity

travel speed up to 120 m/min
 minimum bending radii $5 \times \varnothing$

Thermal / Chemical specifications

ambient temperature
 - flexing - 30 °C... + 60 °C
 - fixed - 40 °C... + 60 °C

unlimited resistance to atmospheric corrosion

Important features

- self-extinguishing and flame retardant
- resistant to ozone
- waterproof, suitable also for use in industrial water
- resistant to oil
- UV-resistant
- LBS-free / silicone-free

Design features

conductor flexible (cat. 5) according to DIN VDE 0295
 sheath polychloroprene (PCP)
 core insulation rubber compound

Type H07RN-F

Wampfler Cable T-3

Order information



Type of cable	Number of conductors and cross section	Order No.	Outer diameter minimum/maximum [mm]	Weight approx. [kg/100m]	Ampacity I _B [A] [†]	Permitted tensile load [N]	
Control cables H07RN-F	3 G 1.5	0601- 3 G 1,5#	9.2 - 11.2	15.7	18.9	65	
	4 G 1.5	0601- 4 G 1,5#	10.2 - 12.5	19.2	18.9	90	
	5 G 1.5	0601- 5 G 1,5#	11.2 - 13.5	23.8	16.1	110	
	7 G 1.5	0602- 7 G 1,5#	14.0 - 17.0	37.1	13.2	155	
	12 G 1.5	0602- 12 G 1,5#	17.6 - 20.5	51.6	10.2	270	
	24 G 1.5	0602- 24 G 1,5#	24.3 - 28.5	96.8	7.8	540	
	3 G 2.5	0601- 3 G 2,5#	10.2 - 12.5	21.7	27.3	55	
	4 G 2.5	0601- 4 G 2,5#	12.1 - 14.5	26.9	27.3	150	
	5 G 2.5	0601- 5 G 2,5#	13.3 - 16.0	32.9	23.2	185	
	7 G 2.5	0602- 7 G 2,5#	17.0 - 20.0	49.9	19.1	260	
	12 G 2.5	0602- 12 G 2,5#	20.6 - 23.5	71.9	14.1	450	
	18 G 2.5	0602- 18 G 2,5#	26.5 - 29.5	106.8	12.8	675	
	Power cables, 1-core H07RN-F	1 x 10	0601- 1 x 10#	9.5 - 11.5	20.0	76.7	150
		1 x 16	0601- 1 x 16#	10.8 - 13.0	27.9	102.9	240
		1 x 25	0601- 1 x 25#	12.7 - 15.0	39.6	135.5	375
		1 x 35	0601- 1 x 35#	14.3 - 17.0	54.0	165.9	525
		1 x 50	0601- 1 x 50#	16.5 - 19.5	71.9	207.9	750
		1 x 70	0601- 1 x 70#	18.6 - 22.0	94.7	257.3	1.050
1 x 95		0601- 1 x 95#	20.8 - 24.0	123.0	306.6	1.425	
1 x 120		0601- 1 x 120#	22.8 - 26.5	152.0	361.2	1.800	
1 x 150		0601- 1 x 150#	25.2 - 29.0	188.7	410.6	2.250	
1 x 185		0601- 1 x 185#	27.6 - 31.5	230.0	470.4	2.775	
preferred series, short-term delivery							

[†] The ampacity I_B is based on an ambient temperature of 30°C, individual free cabling in the air at 100% duty. Varying environmental conditions, method of operation and cabling arrangement can result in considerably different ampacities (s. technical exhibit).



Wampfler Cable T-3

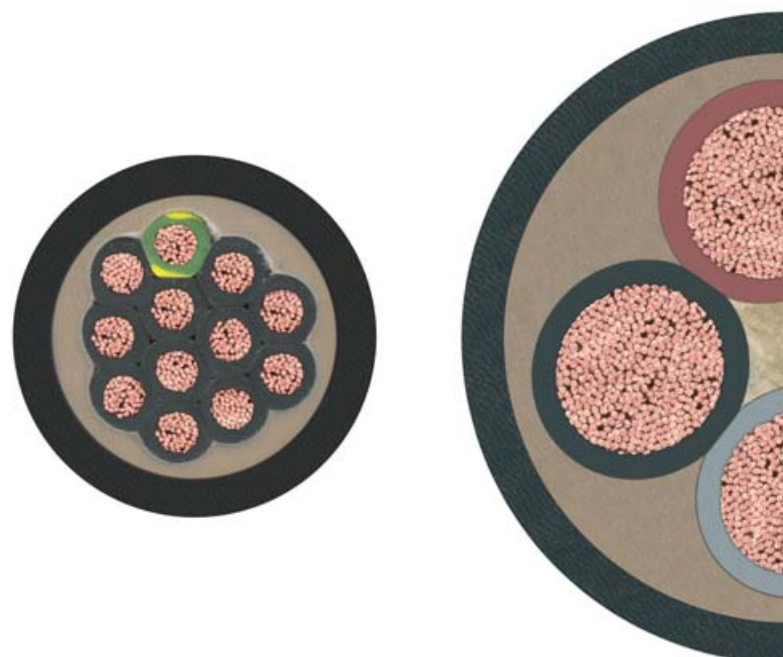
Order information

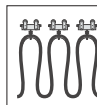


Type of cable	Number of conductors and cross section	Order No.	Outer diameter minimum/maximum [mm]	Weight approx. [kg/100m]	Ampacity I _B [A] [†]	Permitted tensile load [N]
Power cables, 4-core and 5-core H07RN-F	4 G 4	0601- 4 G 4#	14.0 - 17.0	27.3	35.7	240
	4 G 6	0601- 4 G 6#	15.7 - 19.0	51.4	46.2	360
	4 G 10	0601- 4 G 10#	20.9 - 24.5	89.8	64.1	600
	4 G 16	0601- 4 G 16#	23.8 - 28.0	125.3	86.1	960
	4 G 25	0601- 4 G 25#	28.9 - 33.0	184.6	113.4	1.500
	4 G 35	0601- 4 G 35#	32.5 - 36.5	239.3	141.8	2.100
	4 G 50	0601- 4 G 50#	37.7 - 42.0	328.4	176.4	3.000
	5 G 4	0601- 5 G 4#	15.6 - 19.0	46.6	30.3	300
	5 G 6	0601- 5 G 6#	17.5 - 21.0	64.0	39.3	450
	5 G 10	0601- 5 G 10#	22.9 - 27.0	110.7	54.5	750
	5 G 16	0601- 5 G 16#	26.4 - 31.0	156.4	73.2	1.200
	5 G 25	0601- 5 G 25#	32.0 - 36.0	229.1	102.7	1.875

preferred series, short-term delivery

[†] The ampacity I_B is based on an ambient temperature of 30°C, individual free cabling in the air at 100% duty. Varying environmental conditions, method of operation and cabling arrangement can result in considerably different ampacities (s. technical exhibit).





Wampfler Cable T-3

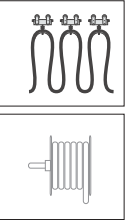
Technical data

		H07RN-F
Electrical parameters	rated voltage	U ₀ /U = 450/750 V (600/1.000 V on request)
	maximum permitted AC operating voltage	U ₀ /U = 476/825 V
	maximum permitted DC operating voltage	U ₀ /U = 619/1238 V
	ampacity	accord. to table data, otherwise accord. to DIN VDE 0298 part 4
	AC test voltage	2.5 kV
Thermal parameters	ambient temperature	flexing -30 °C to + 60 °C
		fixed -40 °C to + 60 °C
	maximum permitted operating temperature of the conductor	60 °C
	short-circuit temperature of the conductor	200 °C
Mechanical parameters	minimum bending radii allowing for free movement	5 x Ø
	tensile load-bearing capacity	15 N/mm ² during operation for moving cables according to DIN VDE 0298 part 3
Chemical parameters	LBS-free / silicone-free	yes
	combustion behaviour	flame retardant and self-extinguishing according to DIN VDE 0482 part 265-2-1, IEC 60332-1
	resistant to ozone	yes
	waterproof	yes, including use in (industrial) water
	UV-resistant	yes
	oil-resistant	yes
	halogen free	no
Materials	insulation	base material ethylene-propylene-rubber (EPR)
	outer sheath	polychloroprene
Design features	conductor	tin-plated electrolytic copper, flexible category 5 up to 6 mm ² according to DIN VDE 0295 bare electrolytic copper, flexible category 5 up to 10 mm ² according to DIN VDE 0295
	stranding	conductor is stranded in layers
	conductor coding	according to DIN VDE 0293, part 308 up to 5 conductors coloured, 6 or more conductors black with white numbers with or without green/yellow
Standards	according to DIN VDE 0282 part 4	
Design codes	harmonised cable H07RN-F	H harmonised standard 07 rated voltage 450 / 750 V R insulation material natural rubber (NR) or synthetic rubber (SR) N sheath material chloroprene rubber (CR) -F type of conductor: flexible

Load-bearing capacity	low		high
Dimensions	large		small
Price level	high		low

Wampfler Cable TXG-4

Rubber round cable



Maximum electromagnetic field (EMF) prevention with the use of a braided outer shield incorporated into the sheath

Maximum stability within the stranded bond resulting from pressure filled extrusion

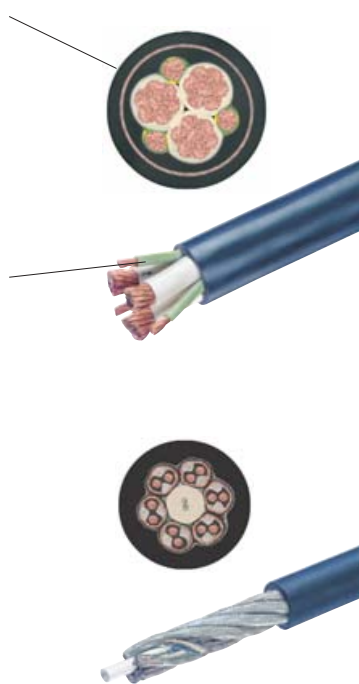
Small diameter due to a stranded, layered structure and in case of power cables, the earth conductor is split into three parts

Excellent axial rigidity and resilience due to interlinked co-extruded sheaths

Complete selection of control, power, bus and optic-fibre cables

Durability resulting from a wear-resistant sheathing compound

Suitable for basic reeling applications due to high mechanical strength



Particularly suitable, if...

- the system is subject to middle to high travel speeds or/and acceleration
- due to a high duty cycle, the cable will be subject to a frequent and continuous bending
- the priority is a robust and durable cable with highest possible reliability
- a very high resistance to atmospheric corrosion is to be expected for a longer period of time
- the operating temperatures reach down to -35 °C, but do not exceed 60 °C

Characteristics

Highly resilient round cable

main application: festoon trolley
secondary application: cable reels

Typical applications

- container crane trolley power supply
- process crane trolleys power supply
- cranes in foundries and steel mills
- Stackers & Reclaimers
- ship unloaders
- transport carriers

Electrical parameters

rated voltage $U_0/U = 600/1,000$ V

Mechanical load-bearing capacity

travel speed up to 250 m/min
(from 210 m/min with motorized festoon systems)
minimum bending radii $5 \times \varnothing$
125 mm for optical fibre cables

Thermal / Chemical specifications

ambient temperature
- flexing - 35 °C... + 60 °C
- fixed - 50 °C... + 80 °C

unlimited resistance to atmospheric corrosion

Important features

- resistant to ozone
- oil-resistant
- UV-resistant
- LBS-free / silicone-free
- resistant to humidity

Design features

conductor flexible (cat. 5) according to DIN VDE 0295
sheath wear-resistant polychloroprene (PCP)
core insulation resilient ethylene-propylene-rubber (EPR)

Brand Rondoflex / Optoflex

Wampfler Cable TXG-4

Order information



Type of cable	Number of conductors and cross section	Order No.	Outer diameter minimum/maximum [mm]	Weight approx. [kg/100m]	Ampacity I _B [A] [†]	Permitted tensile load [N]
Control cables NGRDGÖU-J	12 G 1.5	0624- 12 G 1,5#	16.2 - 18.2	44.0	10.0	270
	18 G 1.5	0624- 18 G 1,5#	18.7 - 20.7	61.5	8.9	405
	24 G 1.5	0624- 24 G 1,5#	22.1 - 24.1	80.5	8.9	540
	12 G 2.5	0624- 12 G 2,5#	17.9 - 19.9	58.0	14.5	450
	18 G 2.5	0624- 18 G 2,5#	21.5 - 23.5	86.5	12.8	675
	24 G 2.5	0624- 24 G 2,5#	24.0 - 27.0	111.0	11.4	900
	30 G 2.5	0624- 30 G 2,5#	26.4 - 29.4	133.0	10.4	1.125
	36 G 2.5	0624- 36 G 2,5#	28.4 - 31.4	155.0	10.2	1.350
Power cables, 1-core NGRDGÖU-O	1 x 35	0623- 1 x 35#	12.3 - 13.9	43.0	165.9	525
	1 x 50	0623- 1 x 50#	15.0 - 16.6	62.5	207.9	750
	1 x 70	0623- 1 x 70#	16.5 - 18.4	83.5	257.3	1.050
	1 x 95	0623- 1 x 95#	18.9 - 20.9	107.0	306.6	1.425
	1 x 120	0623- 1 x 120#	20.8 - 22.8	134.0	361.2	1.800
	1 x 150	0623- 1 x 150#	22.9 - 24.9	165.0	410.6	2.250
	1 x 185	0623- 1 x 185#	24.8 - 27.8	201.0	470.4	2.775
Power cables, 4-core and 5-core NGRDGÖU-J	4 G 4	0624- 4 G 4#	13.9 - 15.5	35.0	35.7	240
	4 G 6	0624- 4 G 6#	15.9 - 17.9	47.5	46.2	360
	4 G 10	0624- 4 G 10#	18.2 - 20.2	68.0	64.1	600
	4 G 16	0624- 4 G 16#	22.9 - 24.9	107.0	86.1	960
	4 G 25	0624- 4 G 25#	26.9 - 29.9	160.0	113.4	1.500
	4 G 35	0624- 4 G 35#	30.1 - 33.1	209.0	141.8	2.100
	4 G 50	0624- 4 G 50#	35.7 - 38.7	297.0	176.4	3.000
	5 G 4	0624- 4 G 4#	15.7 - 17.7	45.0	30.3	300
	5 G 6	0624- 5 G 6#	17.5 - 19.5	57.5	33.3	450
	5 G 10	0624- 5 G 10#	20.8 - 22.8	86.5	53.8	750
	5 G 16	0624- 5 G 16#	24.6 - 27.6	130.0	73.2	1.200
	5 G 25	0624- 5 G 25#	29.5 - 32.5	194.0	96.3	1.875

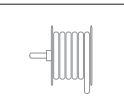
preferred series, short-term delivery

[†] The ampacity I_B is based on an ambient temperature of 30°C, individual free cabling in the air at 100% duty. Varying environmental conditions, method of operation and cabling arrangement can result in considerably different ampacities (s. technical exhibit).



Wampfler Cable TXG-4

Order information



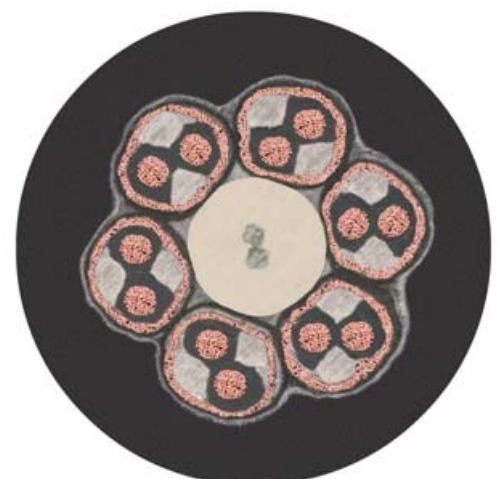
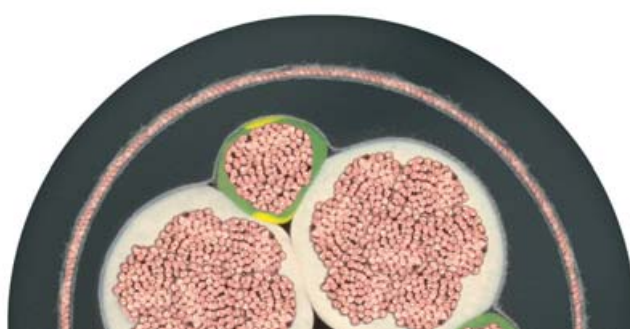
Type of cable	Number of conductors and cross section	Order No.	Outer diameter minimum/maximum [mm]	Weight approx. [kg/100m]	Ampacity I _B [A] [†]	Permitted tensile load [N]
Power cables screened 4-core bundles NGRDGCGÖU-J	4 G 10 C	0622- 4 G 10C#	19.7 - 22.7	92.5	64.1	600
	3 x 16 + 3 G 2.5 C	0622- 4 G 16C#	22.2 - 25.2	115.0	86.1	720
	3 x 25 + 3 G 4 C	0622- 4 G 25C#	25.3 - 28.3	161.0	113.4	1.125
	3 x 35 + 3 G 6 C	0622- 4 G 35C#	29.3 - 32.3	216.0	141.8	1.575
	3 x 50 + 3 G 10 C	0622- 4 G 50C#	35.0 - 38.0	309.0	176.4	2.250
	3 x 70 + 3 G 10 C	0622- 4 G 70C#	40.9 - 43.9	410.0	271.4	3.150

Bus cables screened in pairs NGRDGCGÖU-O	6 x (2 x 0,5) C	0625- 6 x 2x0,5C#	22.1 - 25.1	85.0	3.7	90
	6 x (2 x 1) C	0625- 6 x 2x1C#	28.1 - 31.1	125.0	9.0	180
	9 x (2 x 1) C	0625- 9 x 2x1C#	35.9 - 38.9	201.0	7.6	270

Type of cable	Number of fiber optics and cross section	Order No.	Outer diameter minimum/maximum [mm]	Weight approx. [kg/100m]	Damping capacity max. 1300 nm	Permitted tensile load [N]
Optical fiber cable	LWL 6 G 62.5 / 125	0666- 6 G 62,5#	14.9 - 16.9	24.0	0.9 dB/km	500
	LWL 6 G 50 / 125	0666- 6 G 50#	14.9 - 16.9	24.0	0.9 dB/km	500
	LWL 18 G 62.5 / 125	0666- 18 G 62,5#	14.9 - 16.9	24.0	0.9 dB/km	500
	LWL 18 G 50 / 125	0666- 18 G 50#	14.9 - 16.9	24.0	0.9 dB/km	500

preferred series, short-term delivery

[†] The ampacity I_B is based on an ambient temperature of 30°C, individual free cabling in the air at 100% duty. Varying environmental conditions, method of operation and cabling arrangement can result in considerably different ampacities (s. technical exhibit).





Wampfler Cable TXG-4

Technical data

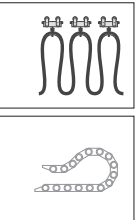


		NGRDGÖU / NGRDCGÖU
Electrical parameters	rated voltage	U ₀ /U = 600/1.000 V
	maximum permitted AC operating voltage	U ₀ /U = 700/1.200 V
	maximum permitted DC operating voltage	U ₀ /U = 900/1.800 V
	ampacity	accord. to table data, otherwise accord. to DIN VDE 0298 part 4
	AC test voltage	2.5 kV over 5 minutes
Thermal parameters	ambient temperature	flexing -30 °C to + 60 °C fixed -40 °C to + 60 °C
	maximum permitted operating temperature of the conductor	90 °C
	short-circuit temperature of the conductor	200 °C
Mechanical parameters	minimum bending radii allowing for free movement	5 x Ø 125 mm for optical fibre cables
	torsional stress capacity	± 90°/m
	tensile load-bearing capacity	15 N/mm ² during operation for moving cables according to DIN VDE 0298 part 3
Chemical parameters	LBS-free / silicone-free	yes
	combustion behaviour	flame retardant and self-extinguishing according to DIN VDE 0482 part 265-2-1, IEC 60332-1
	resistant to ozone	yes
	resistant to humidity	yes
	UV-resistant	yes
	oil-resistant	yes
	halogen free	no
Materials	insulation	material based on ethylene-propylene-rubber (EPR)
	outer sheath	Polychloroprene PCP (Neoprene) compound 5GM3, black
Design features	conductor	tin-plated electrolytic copper, flexible, category 5 according to DIN VDE 0295
	shield	tin-plated braided copper wires coverage of approx. 80 % coupling resistance < 100 mW/m at f ≤ 30 MHz
	stranding	core is stranded in layers
	conductor coding	light-coloured insulation with black numbers with or without green/yellow
Standards		adapted to DIN VDE 0250 part 814, VDE Reg.-No. 9809
Design codes		N VDE standard
		G rubber insulation
		RD round cable
		G inner sheath constructed of rubber
		C shield of braided copper
		G outer sheath constructed of rubber
		Ö oil-resistant sheath material
		U outer sheath with low flammability according to DIN VDE 0472
		-J with a green/yellow identification of the earth/ground conductor
		-O without a green/yellow identification of the earth/ground conductor

Load-bearing capacity	low		high
Dimensions	large		small
Price level	high		low

Wampfler Cable TXP-4

PUR round cable



Highly stable construction

with the use of rubber filler between the conductors and the sheath

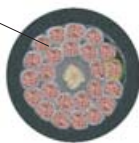
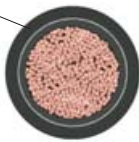
Durability thanks to a wear-resistant sheathing compound

Excellent axial rigidity and resilience due to interlinked co-extruded sheaths

Broad temperature range for numerous possible applications thanks to special materials

Small dimensions due to the use of a 2-layer stranding

Good suitability for energy guiding chains due to short stranding lays with reverse twist



Characteristics

Highly resilient round cable

main application: festoon trolley
secondary application: energy guiding chains

Typical applications

- container crane trolley power supply
- process crane trolleys power supply
- cranes in foundries and steel mills
- Stackers & Reclaimers
- ship unloaders
- transfer cars

Electrical parameters

rated voltage $U_0/U = 600/1.000 \text{ V}$

Mechanical load-bearing capacity

travel speed up to 210 m/min
> 210 m/min on request
minimum bending radii $5 \times \varnothing$ for festoon trolleys
 $7.5 \times \varnothing$ for energy guiding chains

Thermal / Chemical specifications

ambient temperature
- flexing - 40 °C... + 90 °C
- fixed - 50 °C... + 90 °C

unlimited resistance to atmospheric corrosion

Important features

- halogen free
- resistant to ozone
- oil-resistant
- UV-resistant
- LBS-free / silicone-free

Design features

conductor flexible (cat. 5) according to DIN VDE 0295
sheath polyurethane PUR
core insulation base material polyester

Brand Festoonflex

Particularly suitable, if...

- middle to high dynamic travel speed and acceleration forces act on the system
- due to a high duty cycle, frequent and continuous flexing of the cable is expected
- the priority is a robust and durable cable with high reliability
- a halogen-free cable resistant to atmospheric corrosion is important
- the operating temperature range is -40°C to +90°C

Wampfler Cable TXP-4

Order information



Type of cable	Number of conductors and cross section	Order No.	Outer diameter minimum/maximum [mm]	Weight approx. [kg/100m]	Ampacity I _B [A] [†]	Permitted tensile load [N]	
Control cables 12YHRD11YH	4 G 1.5	0674- 4 G 1,5#	8.5 - 9.5	14.0	8.0	90	
	12 G 1.5	0674- 12 G 1,5#	14.2 - 15.8	26.0	9.5	270	
	18 G 1.5	0674- 18 G 1,5#	15.2 - 16.8	34.0	8.5	400	
	24 G 1.5	0674- 24 G 1,5#	16.2 - 17.8	48.0	7.6	540	
	4 G 2.5	0674- 4 G 2,5#	9.5 - 10.5	19.0	27.3	150	
	5 G 2.5	0674- 5 G 2,5#	9.5 - 10.5	21.0	22.1	180	
	7 G 2.5	0674- 7 G 2,5#	11.5 - 12.5	29.5	16.4	260	
	12 G 2.5	0674- 12 G 2,5#	16.2 - 17.8	46.3	13.8	450	
	18 G 2.5	0674- 18 G 2,5#	16.7 - 18.3	57.6	12.2	675	
	24 G 2.5	0674- 24 G 2,5#	19.0 - 21.0	75.8	11.0	900	
	Power cables, 1-core 12YHRD11YH	1 x 16	0674- 1 x 16#	9.0 - 10.0	17.5	98.0	240
		1 x 25	0674- 1 x 25#	10.5 - 11.5	26.0	129.0	375
1 x 35		0674- 1 x 35#	12.5 - 13.5	35.0	158.0	525	
1 x 50		0674- 1 x 50#	14.2 - 15.8	55.1	198.0	750	
1 x 70		0674- 1 x 70#	16.2 - 17.8	74.8	245.0	1.050	
1 x 95		0674- 1 x 95#	18.2 - 19.8	99.8	292.0	1.425	
1 x 120		0674- 1 x 120#	19.5 - 21.5	121.5	344.0	1.800	
1 x 150		0674- 1 x 150#	21.5 - 23.5	155.6	391.0	2.250	
1 x 185		0674- 1 x 185#	24.5 - 26.5	185.0	448.0	2.775	
Power cables, 4-core 12YHRD11YH	4 G 4	0674- 4 G 4#	10.5 - 11.5	21.9	35.7	240	
	4 G 6	0674- 4 G 6#	12.0 - 13.0	34.0	46.2	360	
	4 G 10	0674- 4 G 10#	15.2 - 16.8	55.0	61.0	600	
	4 G 16	0674- 4 G 16#	17.7 - 19.3	79.1	82.0	960	
	4 G 25	0674- 4 G 25#	22.5 - 24.5	107.8	113.4	1.500	
	4 G 35	0674- 4 G 35#	26.5 - 28.5	156.6	141.8	2.100	
	4 G 50	0674- 4 G 50#	31.2 - 33.8	234.7	176.4	3.000	

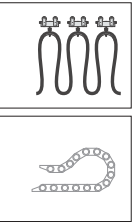
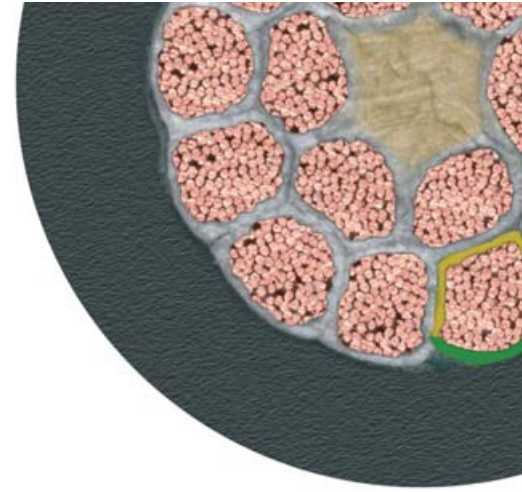
preferred series, short-term delivery

[†] The ampacity I_B corresponds with conditions for an ambient temperature of 30°C, individual support at even surface (accumulation at support) as well as for continuous operation. Deviating conditions with respect to environment, type of operation (on-time) as well as cabling conditions can result in considerably different ampacities (s. technical exhibit).



Wampfler Cable TXP-4

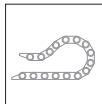
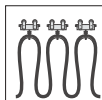
Order information



Type of cable	Number of conductors and cross section	Order No.	Outer diameter minimum/maximum [mm]	Weight approx. [kg/100m]	Ampacity I _B [A] [†]	Permitted tensile load [N]
Power cables, 5-core 12YHRD11YH	5 G 4	0674- 5 G 4#	11.5 - 12.5	26.5	26.8	300
	5 G 6	0674- 5 G 6#	13.5 - 14.5	38.8	34.7	450
	5 G 10	0674- 5 G 10#	16.2 - 17.8	61.4	48.1	750
	5 G 16	0674- 5 G 16#	19.0 - 21.0	96.8	73.2	1.200
	5 G 25	0674- 5 G 25#	25.0 - 27.0	146.6	102.7	1.875
Control cables, screened 12YHRDC11YH	4 G 1.5 C	0675- 4 G 1,5 C#	9.0 - 10.0	20.0	18.0	90
	5 G 1.5 C	0675- 5 G 1,5 C#	11.0 - 12.0	22.5	15.3	110
	7 G 1.5 C	0675- 7 G 1,5 C#	12.5 - 13.5	33.0	11.3	155
	12 G 1.5 C	0675- 12 G 1,5 C#	15.2 - 16.8	41.0	9.5	270
	18 G 1.5 C	0675- 18 G 1,5 C#	16.2 - 17.8	55.0	8.5	405
	4 G 2.5 C	0675- 4 G 2,5 C#	10.5 - 11.5	25.7	26.0	150
	5 G 2.5 C	0675- 5 G 2,5 C#	12.5 - 13.5	29.2	22.1	185
	12 G 2.5 C	0675- 12 G 2,5 C#	17.7 - 19.3	64.6	13.8	450
	18 G 2.5 C	0675- 18 G 2,5 C#	19.0 - 21.0	82.8	12.2	675
	Power cables, 1-core, screened 12YHRDC11YH	1 x 25 C	0675- 1 x 25 C#	11.0 - 12.0	40.0	129.0
1 x 35 C		0675- 1 x 35 C#	13.0 - 14.0	49.0	158.0	525
1 x 50 C		0675- 1 x 50 C#	15.2 - 16.8	69.5	198.0	750
1 x 70 C		0675- 1 x 70 C#	17.2 - 18.8	91.0	245.0	1.050
1 x 95 C		0675- 1 x 95 C#	19.0 - 21.0	118.0	292.0	1.425
1 x 120 C		0675- 1 x 120 C#	20.5 - 22.5	133.1	344.0	1.800
1 x 150 C		0675- 1 x 150 C#	22.0 - 24.0	186.0	391.0	2.250
1 x 185 C		0675- 1 x 185 C#	25.0 - 27.0	200.0	448.0	2.775
Power cables, 4-core, screened 12YHRDC11YH	4 G 4 C	0675- 4 G 4 C#	11.5 - 12.5	34.0	35.7	240
	4 G 6 C	0675- 4 G 6 C#	13.0 - 14.0	41.0	46.2	360
	4 G 10 C	0675- 4 G 10 C#	15.7 - 17.3	71.0	64.1	600
	4 G 16 C	0675- 4 G 16 C#	18.7 - 20.3	102.0	86.1	960
	4 G 25 C	0675- 4 G 25 C#	23.5 - 25.5	116.8	113.4	1.500
	4 G 35 C	0675- 4 G 35 C#	27.5 - 29.5	166.6	141.8	2.100
	4 G 50 C	0675- 4 G 50 C#	32.8 - 35.2	245.7	176.4	3.000
Bus cables screened pair of conductors 12YHRDTC11YH	6 x (2 x 1) C*	0632- 6 x (2x1)C#	22.0 - 23.0	64.0	8.6	180

preferred series, short-term delivery

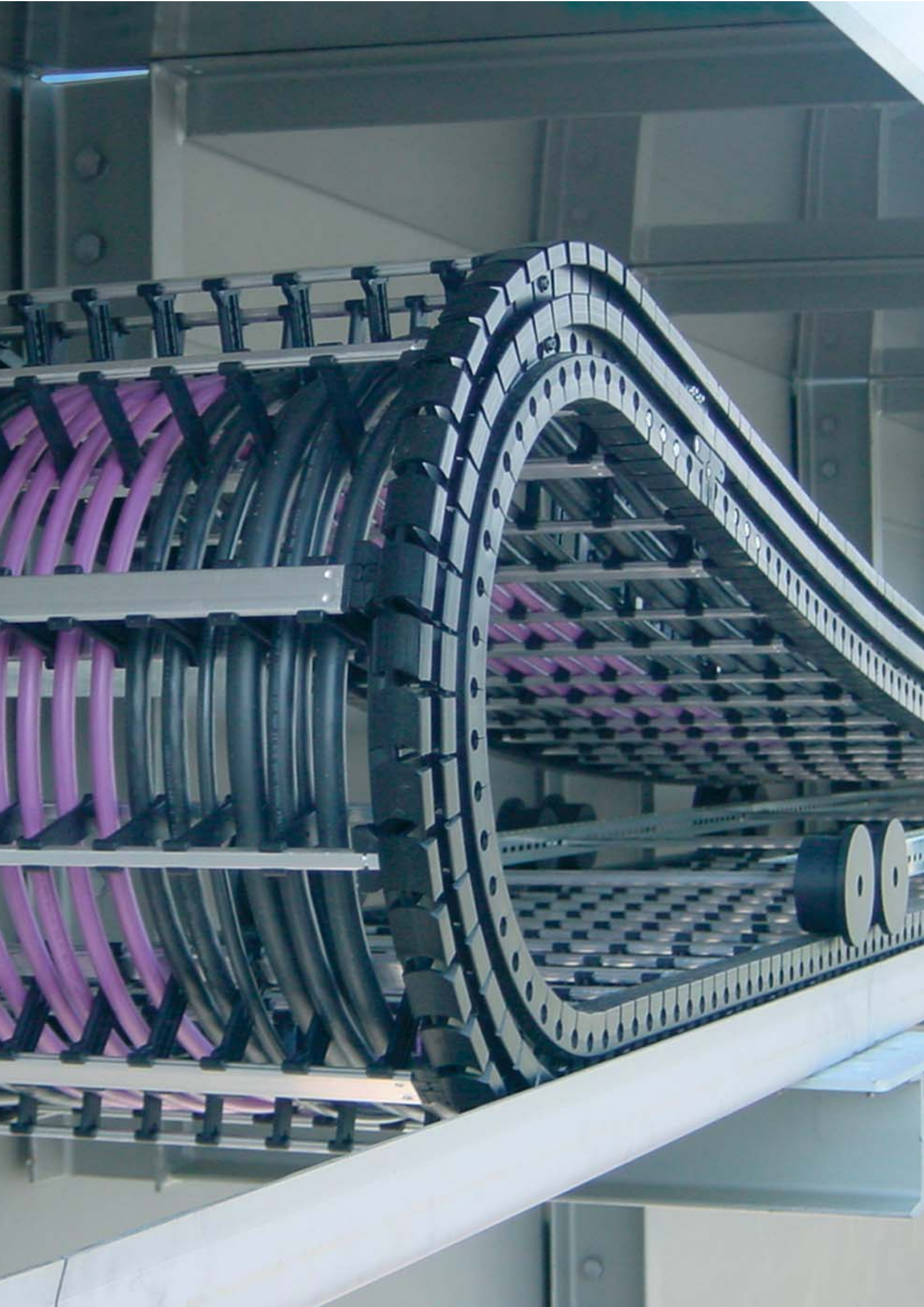
[†] The ampacity I_B corresponds with conditions for an ambient temperature of 30°C, individual support at even surface (accumulation at support) as well as for continuous operation. Deviating conditions with respect to environment, type of operation (on-time) as well as cabling conditions can result in considerably different ampacities (s. technical exhibit).



Wampfler Cable TXP-4

Technical data

		12YHRD11YH / 12YHRDC11YH	
Electrical parameters	rated voltage	U ₀ /U = 600/1.000 V	
	maximum permitted AC operating voltage	U ₀ /U = 700/1.200 V	
	maximum permitted DC operating voltage	U ₀ /U = 900/1.800 V	
	ampacity	accord. to table data, otherwise accord. to DIN VDE 0298 part 4	
	AC test voltage	2.5 kV over 5 minutes	
Thermal parameters	ambient temperature	flexing -40 °C to + 90 °C	
		fixed -50 °C to + 90 °C	
	maximum permitted operating temperature of the conductor	90 °C	
	short-circuit temperature of the conductor	200 °C	
Mechanical parameters	minimum bending radii allowing for free movement	5 x Ø for festoon trolleys 7.5 x Ø for energy guiding chains	
	torsional stress capacity	none	
	tensile load-bearing capacity	15 N/mm ² during operation for moving cables according to DIN VDE 0298 part 3	
Chemical parameters	LBS-free / silicone-free	yes	
	combustion behaviour	low flammability, adapted to DIN EN 50265-2-1	
	resistant to ozone	yes	
	resistant to humidity	yes	
	UV-resistant	yes	
	oil-resistant	yes	
	halogen free	yes	
Materials	insulation	base material polyester	
	outer sheath	polyurethane (PUR)	
Design features	conductor	bare electrolytic copper flexible category 5, according to DIN VDE 0295	
	shield	tin-plated braided copper wires coverage of approx. 85 %	
	stranding	core is stranded in layers	
	conductor coding	according to DIN 0293 up to 5 conductors coloured, from the 6th conductor white with black numbers with or without green/yellow	
Standards	adapted to DIN VDE 0250		
Design codes	12YHRD11YH 12YHRDC11YH	12YH	core insulation based on polyester PE, halogen free
		RD	round cable
		C	braided copper shields, inner shield or screened pairs of conductors
		11YH	outer sheath based on polyurethane PUR, halogen free



Wampfler Cables

for energy guiding chains

Special points as subject to stress

■ Unsupported upper chain links

- reverse deflection of the cable
- cables resting on inner frame stays

■ Apex of outer radius

- high horizontal & vertical acceleration
- deflection forces applied to the cable

■ Movement of the chain radius

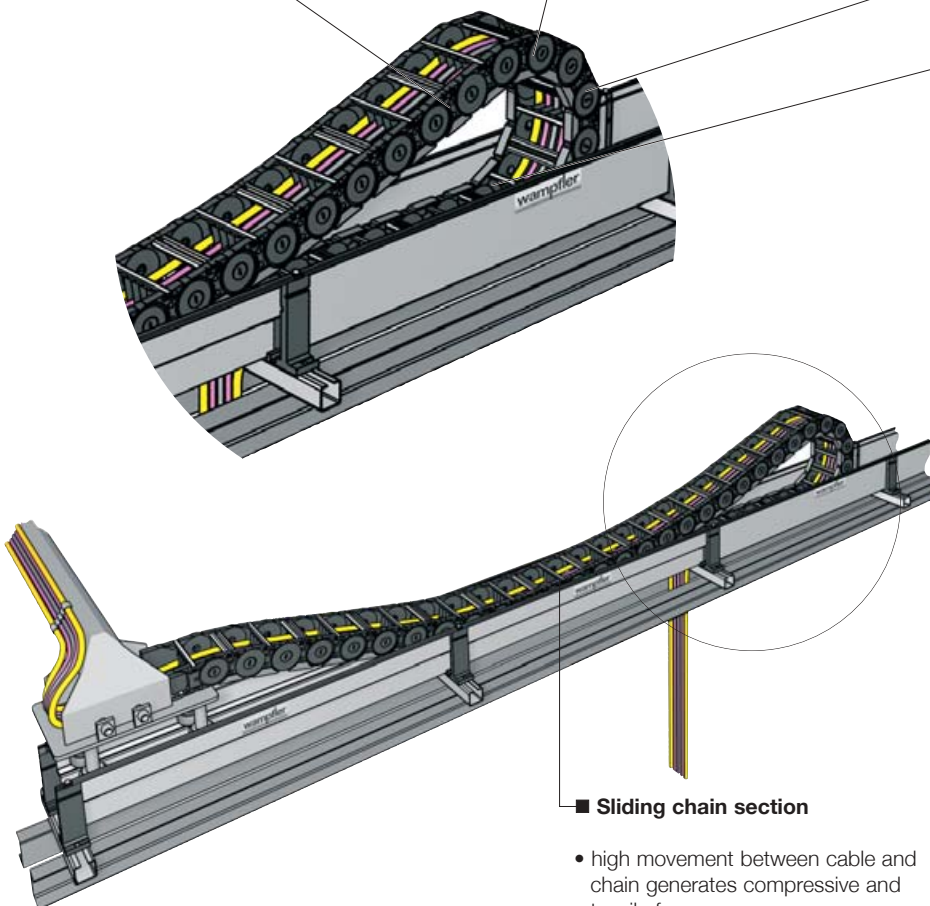
- relative displacement and friction of the cable compared with the chain
- low shearing and tensile load on the cable
- additional cable acceleration when deflected

■ Beginning of the chain radius

- high horizontal & vertical acceleration
- deflection forces on the cable
- cable supported by outer frame stays of the chain's cross section

■ Sliding chain section

- high movement between cable and chain generates compressive and tensile forces



C-5

CXG-6

CXP-6

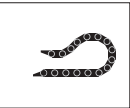
Special features

- low weight and small diameters as a result of particularly thin conductor insulation and sheaths
- best insulation materials for small wall thickness
- very high resilience due to short lay pitches (7 to 8 x Ø)
- flexible sheath compound with high resistance to tearing and abrasion
- resistance to corkscrews as a result of a stranding with reverse twist
- extruded filler in interstices provides stable construction
- high wear resistance against chain material

Load-bearing capacity	low		high
Dimensions	large		small
Price level	high		low

Wampfler Cable C-5

PVC round cable



Prevention of corkscrews

due to twist-free stranding with a reverse twist

Durable stranded bond with high load capacity

due to center stress relief element (≥ 5 conductors)

Durability resulting from a PVC sheathing compound resistant to abrasion and flexing

Durable under frequent bending due to short lay pitch

Cores tightly bonded to outer sheath with the use of filler

Resistance to electromagnetic interference due to the use of braided copper screen with 85% coverage

Maximum core stability with the use of an inner sheath covering the core bundle (> 8 conductors)



Particularly suitable, if...

- low to medium travel speeds and acceleration forces act on the system
- the application requires a cable suitable for frequent longitudinal movement
- a cost effective cable solution primarily for indoor use is required
- the outer sheath is subject to frequent abrasion and high resistance to wear is required
- the operating temperatures can reach up to 80 °C

Characteristics

Resilient PVC round cable

main application: energy guiding chains
secondary application: festoon trolleys/systems

Typical applications

- rack feeder
- irrigation systems
- power supply for cranes & trolleys
- standard indoor cranes
- process cranes
- handling equipment

Electrical parameters

rated voltage U₀/U = 0.6 / 1 kV
unscreened types
U₀/U = 300/500 V
screened types

Mechanical load-bearing capacity

travel speed up to 150 m/min
minimum bending radii 7.5 x Ø

Thermal / Chemical specifications

ambient temperature
- flexing - 5 °C ... + 80 °C
- fixed - 15 °C ... + 80 °C

resistance to atmospheric corrosion UV-resistant

Important features

- flame retardant
- CFC-free
- oil-resistant
- UV-resistant
- LBS-free / silicone-free

Design features

conductor flexible category 5, according to DIN VDE 0295
sheath bending-resistant PVC compound
core insulation base material PVC

Brand LifeLine

Wampfler Cable C-5

Order information

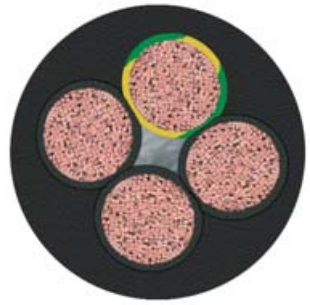
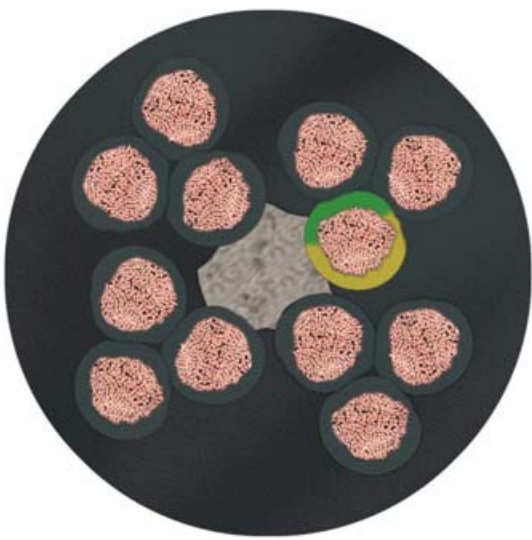
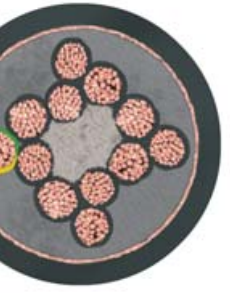
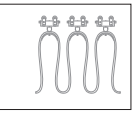
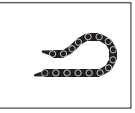


Type of cable	Number of conductors and cross section	Order No.	Outer diameter minimum/maximum [mm]	Weight approx. [kg/100m]	Ampacity I _B [A] [†]	Permitted tensile load [N]
Control cables YRDMY-J	4 G 1.5	0678- 4 G 1,5#	7.0 - 7.6	10.5	18.0	90
	5 G 1.5	0678- 5 G 1,5#	8.2 - 8.8	12.5	15.3	110
	7 G 1.5	0678- 7 G 1,5#	9.6 - 10.4	17.0	11.3	160
	12 G 1.5	0678- 12 G 1,5#	14.4 - 15.4	35.8	9.5	270
	18 G 1.5	0678- 18 G 1,5#	17.0 - 18.0	50.0	8.5	400
	25 G 1.5	0678- 25 G 1,5#	20.5 - 21.7	68.0	7.2	560
	4 G 2.5	0678- 4 G 2,5#	8.8 - 9.4	15.0	26.0	150
	5 G 2.5	0678- 5 G 2,5#	9.4 - 10.2	18.0	22.1	190
	7 G 2.5	0678- 7 G 2,5#	11.7 - 12.5	25.2	16.4	260
	12 G 2.5	0678- 12 G 2,5#	17.3 - 18.3	53.9	13.8	450
18 G 2.5	0678- 18 G 2,5#	22.2 - 23.8	83.3	12.2	675	
25 G 2.5	0678- 25 G 2,5#	24.8 - 26.4	104.0	10.4	940	
Power cables, 4-core YRDMY-J	4 G 4	0678- 4 G 4#	10.5 - 11.3	23.0	34.0	240
	4 G 6	0678- 4 G 6#	12.6 - 13.4	33.8	44.0	360
	4 G 10	0678- 4 G 10#	15.6 - 16.6	53.6	61.0	600
	4 G 16	0678- 4 G 16#	19.3 - 20.9	85.4	82.0	960
	4 G 25	0678- 4 G 25#	24.2 - 25.8	131.0	108.0	1.500
	4 G 35	0678- 4 G 35#	27.4 - 29.0	178.5	135.0	2.100
Power cables, 5- and 7-core YRDMY-J	5 G 4	0678- 5 G 4#	11.5 - 12.3	26.9	28.9	300
	7 G 4	0678- 7 G 4#	13.8 - 14.6	36.3	21.4	420
	7 G 6	0678- 7 G 6#	16.8 - 17.8	56.0	27.7	630
Control cables screened YRDMCY-J	4 G 1.5 C	0679- 4 G 1,5 C#	9.1 - 9.7	15.3	18.0	60
	5 G 1.5 C	0679- 5 G 1,5 C#	9.7 - 10.3	17.6	15.3	75
	7 G 1.5 C	0679- 7 G 1,5 C#	12.4 - 13.2	26.8	11.3	105
	12 G 1.5 C	0679- 12 G 1,5 C#	16.7 - 17.7	44.1	9.5	180
	18 G 1.5 C	0679- 18 G 1,5 C#	19.8 - 21.0	60.8	8.5	270
	25 G 1.5 C	0679- 25 G 1,5 C#	23.3 - 24.9	88.1	7.2	375

preferred series, short-term delivery

[†]The ampacity I_B is based on an ambient temperature of 30°C with cables laid on an even, flat support at 100% duty. Varying environmental conditions, method of operation and cabling arrangement can result in considerably different ampacities (s. technical exhibit).





Wampfler Cable C-5

Technical data

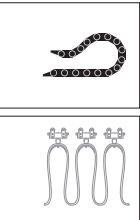


		YRDMY-J	YRDMCY-J
Electrical parameters	rated voltage	U ₀ /U = 600/1.000 V	U ₀ /U = 300/500 V
	maximum permitted AC operating voltage	U ₀ /U = 700/1.200 V	U ₀ /U = 318/550 V
	maximum permitted DC operating voltage	U ₀ /U = 900/1.800 V	U ₀ /U = 413/825 V
	ampacity	accord. to table data, otherwise accord. to DIN VDE 0298 part 4	
	AC test voltage	2.5 kV	2.0 kV
Thermal parameters	ambient temperature	flexing	-5 °C up to + 80 °C
		fixed	-15 °C up to + 80 °C
	maximum permitted operating temperature of the conductor	70 °C	
	short-circuit temperature of the conductor	150 °C	
Mechanical parameters	minimum radius for flexing operation	7.5 Ø	
	tensile load-bearing capacity	15 N/mm ² during operation for moving cables according to DIN VDE 0298 part 3	
Chemical parameters	LBS-free / silicone-free	yes	
	combustion behaviour	flame retardant and self-extinguishing according to DIN VDE 0482 part 265-2-1, IEC 60332-1	
	resistant to ozone	limited	
	CFC-free	yes	
	halogen free	no	
	resistant to humidity	yes	
	UV-resistant	yes	
	oil-resistant	yes	
Materials	insulation	PVC	
	sheath	bending-resistant special high-quality PVC, black	
Design features	conductor	bare electrolytic copper, flexible cat. 5 accord. to DIN VDE 0295	
	shield	without	braided bare copper wires, coverage of approx. 85 %
	stranding	up to 7 conductors stranding in layers with reverse twist, short lay,	
		up to 12 conductors stranding in bundles with reverse twist, short lay	
	conductor coding	black with white numbers with or without green/yellow	
Standards	adapted to DIN VDE 0250 UL/CSA compliant DESINA		
Design codes	YRDMY-J / YRDMCY-J	Y insulation material PVC	Y insulation material PVC
		RD round	RD round
	M cable	M cable	
	Y Sheath material PVC	C shield of braided copper wires	
	J with green/yellow earth conductor	Y Sheathing material PVC	
		J with green/yellow earth conductor	

Load-bearing capacity	low		high
Dimensions	large		small
Price level	high		low

Wampfler Cable CXG-6

Rubber round cable



Small size as a result of a compact design with a 2-layer stranding

Prevention of corkcrews due to stranding with a reverse twist reducing tensile force on the core

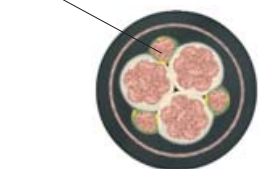
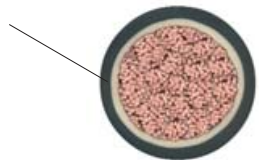
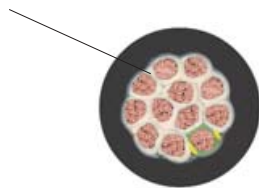
Highly stable bond provided by the protective inner sheath

High durability resulting from an extremely wear-resistant and low-friction EVA sheathing compound

Suitable for wide range of operating temperatures (-35 °C and 80 °C flexing)

Screened cables provide optimised prevention against electromagnetic interference with the earth conductor divided into three parts

Durable in frequent bending applications as a result of resilient construction



Particularly suitable, if...

- medium to very high dynamic travel speed and acceleration forces act on the system
- cable is subject to a very high duty cycle/bending frequency
- high wear resistance and overall durability and reliability are required
- unlimited resistance to atmospheric conditions is required to ensure longer life
- the operating temperature range is between -35°C and 80 °C

Characteristics

highly resilient rubber round cable

main application: energy guiding chains
secondary application: festoon trolley

Typical applications

- container crane trolley power supply
- process crane trolleys power supply
- process crane power supply
- Stackers & Reclaimers
- steel and rolling mills

Electrical parameters

rated voltage $U_0/U = 600/1,000$ V

Mechanical load-bearing capacity

travel speed up to 300 m/min
minimum bending radii $7.5 \times \varnothing$

Thermal / Chemical specifications

ambient temperature
- flexing - 35 °C... + 80 °C
- fixed - 50 °C... + 80 °C

unlimited resistance to atmospheric corrosion

Important features

- flame resistant
- resistant to ozone
- oil-resistant
- UV-resistant
- LBS-free / silicone-free
- extremely wear-resistant
- halogen free

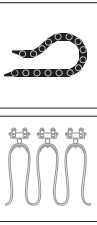
Design features

conductor flexible (cat. 5) according to DIN VDE 0295
sheath EVA compounds with high resistance to wear and atmospheric corrosion, black
core insulation resilient EPR compounds

Brand Rondoflex Chain

Wampfler Cable CXG-6

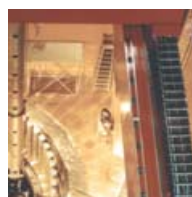
Order information



Type of cable	Number of conductors and cross section	Order No.	Outer diameter minimum/maximum [mm]	Weight approx. [kg/100m]	Ampacity I _B [A] ⁽¹⁾	Permitted tensile load [N]
Control cables (N)GRDGÖU-J	12 G 1.5	0663- 12 G 1,5#	11.7 - 13.7	30.5	9.5	270
	24 G 1.5	0663- 24 G 1,5#	19.9 - 21.9	62.5	7.6	540
	7 G 2.5	0663- 7 G 2,5#	11.3 - 13.3	29.0	16.4	260
	12 G 2.5	0663- 12 G 2,5#	15.4 - 17.4	43.0	13.8	450
	18 G 2.5	0663- 18 G 2,5#	19.5 - 21.5	68.0	12.2	675
	24 G 2.5	0663- 24 G 2,5#	22.5 - 24.5	101.0	10.9	900
Power cables, 1-core (N)GRDGÖU-O	1 x 16	0663- 1 x 16#	8.7 - 9.7	21.0	98.0	240
	1 x 25	0663- 1 x 25#	10.6 - 12.2	32.5	129.0	375
	1 x 35	0663- 1 x 35#	12.3 - 13.9	44.5	158.0	525
	1 x 50	0663- 1 x 50#	13.9 - 15.9	60.5	198.0	750
	1 x 70	0663- 1 x 70#	15.9 - 17.9	83.0	245.0	1.050
	1 x 95	0663- 1 x 95#	19.1 - 21.1	112.0	292.0	1.425
	1 x 120	0663- 1 x 120#	20.8 - 22.8	139.0	344.0	1.800
	1 x 150	0663- 1 x 150#	23.0 - 26.0	174.0	391.0	2.250
	1 x 185	0663- 1 x 185#	25.2 - 28.2	209.0	448.0	2.775
Power cables, 4-core (N)GRDGÖU-J	4 G 4	0663- 4 G 4#	12.7 - 14.7	32.5	34.0	240
	4 G 6	0663- 4 G 6#	14.2 - 16.2	43.5	44.0	360
	4 G 10	0663- 4 G 10#	16.7 - 18.7	65.0	61.0	600
	4 G 16	0663- 4 G 16#	20.0 - 22.0	96.0	82.0	960
	4 G 25	0663- 4 G 25#	25.9 - 28.9	158.0	108.0	1.500
	3 x 35 + 3 G 6	0663- 4 G 35#	26.4 - 29.4	177.0	135.0	1.575
	3 x 50 + 3 G 25/3	0663- 4 G 50#	31.5 - 34.5	251.0	168.0	2.250
Power cables, 5- and 7-core stranded (N)GRDGÖU-J	7 G 4	0663- 7 G 4#	16.7 - 18.7	53.5	21.4	420
	5 G 6	0663- 5 G 6#	15.8 - 17.8	53.5	37.4	450
	5 G 10	0663- 5 G 10#	19.7 - 21.7	85.0	51.2	750
	5 G 16	0663- 5 G 16#	22.8 - 24.8	122.0	69.7	1.200

preferred series, short-term delivery

⁽¹⁾ The ampacity I_B is based on an ambient temperature of 30 °C with cables laid on an even, flat support at 100% duty. Varying environmental conditions, method of operation and cabling arrangement can result in considerably different ampacities (s. technical exhibit).



Wampfler Cable CXG-6

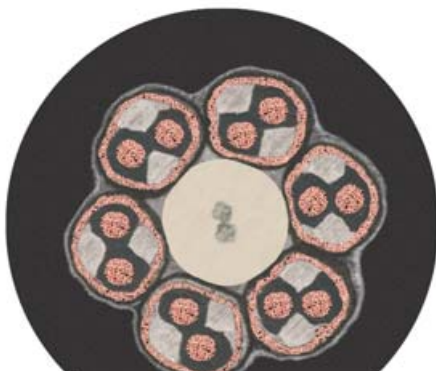
Order information

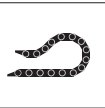


Type of cable	Number of conductors and cross section	Order No.	Outer diameter minimum/maximum [mm]	Weight approx. [kg/100m]	Ampacity I _B [A] [†]	Permitted tensile load [N]
Control cables, screened (N)GRDCGÖU-J	12 G 1.5C	0664- 12 G 1,5C#	14.7 - 16.7	44.0	9.5	270
	4 G 2.5C	0664- 4 G 2,5C#	11.3 - 13.3	30.5	26.0	150
	5 G 2.5C	0664- 5 G 2,5C#	12.7 - 14.7	37.0	22.1	185
Power cables, screened 1-core (N)GRDCGÖU-O	1 x 16C	0664- 1 x 16C#	10.1 - 12.1	32.0	98.0	240
	1 x 25C	0664- 1 x 25C#	12.8 - 14.8	45.0	129.0	375
	1 x 35C	0664- 1 x 35C#	13.9 - 15.9	55.5	158.0	525
	1 x 50C	0664- 1 x 50C#	15.7 - 17.7	74.5	198.0	750
	1 x 70C	0664- 1 x 70C#	18.7 - 20.7	109.0	245.0	1.050
	1 x 95C	0664- 1 x 95C#	20.8 - 22.8	133.0	292.0	1.425
	1 x 120C	0664- 1 x 120C#	22.8 - 24.8	158.0	344.0	1.800
	1 x 150C	0664- 1 x 150C#	25.6 - 28.6	200.0	391.0	2.250
1 x 185C	0664- 1 x 185C#	27.8 - 30.8	239.0	448.0	2.775	
Power cables, screened 4-core (N)GRDCGÖU-J	4 G 4C	0664- 4 G 4C#	15.7 - 17.7	50.0	34.0	240
	4 G 6C	0664- 4 G 6C#	17.0 - 19.0	65.0	44.0	360
	4 G 10C	0664- 4 G 10C#	19.7 - 21.7	86.5	61.0	600
	3 x 16 + 3 G 2.5C	0664- 4 G 16C#	20.4 - 22.4	107.0	82.0	720
	3 x 25 + 3 G 4C	0664- 4 G 25C#	25.8 - 28.8	181.0	108.0	1.125
	3 x 35 + 3 G 6C	0664- 4 G 35C#	28.6 - 31.6	222.0	135.0	1.575
	3 x 50 + 3 G 10C	0664- 4 G 50C#	35.0 - 38.0	251.0	176.4	2.250
Bus cables screened and fiber optic cables	1 x (2 x 0.5) C	0665- 1 x 2 x 0,5PC#	8.0 - 10.0	13.5	6.0	15
	4 x (2 x 0.5) C	0665- 4 x 2 x 0,5PC#	19.0 - 21.0	62.5	3.4	60
	(4 x 2 x 0.5) C	0665- 4 x 2 x 0,5C#	19.2 - 21.2	60.5	3.4	60
	6 x (2 x 0.5) C	0665- 6 x 2 x 0,5PC#	20.2 - 22.2	73.0	3.2	90
	6 x (2 x 1) C	0665- 6 x 2 x 1PC#	26.3 - 29.3	112.0	8.0	180
	LWL 6 G 62.5 / 125	0665- 6 G 62.5#	14.0 - 16.0	24.0	-	300
	LWL 12 G 62.5 / 125	0665- 12 G 62,5#	14.0 - 16.0	24.0	-	300
LWL 6 G 9 / 125	0665- 6 G 9#	14.0 - 16.0	24.0	-	300	

preferred series, short-term delivery

[†] The ampacity I_B is based on an ambient temperature of 30 °C with cables laid on an even, flat support at 100% duty. Varying environmental conditions, method of operation and cabling arrangement can result in considerably different ampacities (s. technical exhibit).





Wampfler Cable CXG-6

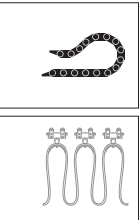
Technical data

		(N)GRDGÖU / (N)GRDCGÖU
Electrical parameters	rated voltage	U ₀ /U = 600/1.000 V
	maximum permitted AC operating voltage	U ₀ /U = 700/1.200 V
	maximum permitted DC operating voltage	U ₀ /U = 900/1.800 V
	ampacity	accord. to table data, otherwise accord. to DIN VDE 0298 part 4
	AC test voltage	2.5 kV
Thermal parameters	ambient temperature	flexing -35 °C to + 80 °C fixed -50 °C to + 80 °C
	maximum permitted operating temperature of the conductor	90 °C
	short-circuit temperature of the conductor	250 °C
Mechanical parameters	minimum bending radii allowing for free movement	7.5 x Ø
	tensile load-bearing capacity	15 N/mm ² during operation for moving cables according to DIN VDE 0298 part 3
Chemical parameters	LBS-free / silicone-free	yes
	combustion behaviour	flame retardant and self-extinguishing according to DIN VDE 0482 part 265-2-1, IEC 60332-1
	resistant to ozone	yes
	resistant to humidity	yes
	UV-resistant	yes
	oil-resistant	yes
Materials	insulation	resilient EPR compounds (minimum 3GI3)
	inner sheath	material basis EPR, type of compound GM1b, black
	outer sheath	EVA compound with high resistance to wear and atmospheric corrosion, black
Design features	conductor	bare electrolytic copper, flexible, category 5 according to DIN VDE 0295
	shield	tin-plated braided copper wires, coverage > 80 %, coupling resistance < 100 Ω/m at 30 MHz
	stranding	conductors stranded in layers
	conductor coding	according to DIN VDE 0293, part 308 up to 5 conductors coloured, 6 or more conductors black with white numbers with or without green/yellow
Standards	adapted to DIN VDE 0250	
Design codes	(N)GRDGÖU-J / (N)GRDCGÖU-J	(N) adapted to a VDE standard
	(N)GRDGÖU-O / (N)GRDCGÖU-O	G core insulation constructed of a rubber compound (EPR)
		RD round cable
		C shield of braided copper
		G outer sheathing material EVA-rubber compound
		Ö oil-resistant outer sheath
		U outer sheath of low flammability ("fire-proof")
	-O without a green/yellow identification of the earth/ground conductor	
	-J with a green/yellow identification of the earth/ground conductor	

Load-bearing capacity	low		high
Dimensions	large		small
Price level	high		low

Wampfler Cable CXP-6

PUR round cable



Small size due to a compact bundle structure

Durable, wear-resistant, low-friction PUR outer sheath

Highly stable bond provided by the protective inner sheath

Prevention of corkscrews thanks to a twist-free stranding with a reverse twist

Durable in frequent bending applications as a result of resilient construction with short lay of length

Complete selection of power, control, data communications and fibre-optic cables

Highly resilient flexible cable (category 6)



Characteristics

Highly resilient PUR round cable

main application: energy guiding chains
secondary application: festoon trolley

Typical applications

- container crane trolley power supply
- process crane trolleys power supply
- process crane power supply
- steel and rolling mills
- transfer cars

Electrical parameters

rated voltage $U_0/U = 0.6 / 1 \text{ kV}$
from diameter of 1.5 mm^2
 $U_0/U = 300/500 \text{ V}$
up to a diameter up to 1 mm^2
 $U = 300 \text{ V}$ for bus cables

Mechanical load-bearing capacity

travel speed up to 250 m/min
> 250 m/min on request
minimum bending radii $7.5 \times \varnothing$

Thermal / Chemical specifications

ambient temperature
- flexing $-30 \text{ }^\circ\text{C} \dots +80 \text{ }^\circ\text{C}$
- fixed $-35 \text{ }^\circ\text{C} \dots +85 \text{ }^\circ\text{C}$

unlimited resistance to atmospheric corrosion

Important features

- self-extinguishing and flame retardant
- resistant to ozone
- DESINA compliant
- CFC-free
- oil-resistant
- UV-resistant
- LBS-free / silicone-free
- halogen free
- UL/CSA listed

Design features

conductor highly flexible category 6 according to DIN VDE 0295
sheath polyurethane (PUR) with sliding properties
core insulation TPE basis, thermoplastic compound

Brand LifeLine

Particularly suitable, if...

- medium to high dynamic travel speed and acceleration forces act on the system
- due to a high duty cycle, frequent and continuous flexing of the cable is expected
- a halogen-free cable is required
- unlimited resistance to atmospheric effects is required
- if a UL listed cable is required
- the operating temperatures can reach up to $80 \text{ }^\circ\text{C}$

Wampfler Cable CXP-6

Order information



Type of cable	Number of conductors and cross section	Order No.	Outer diameter minimum/maximum [mm]	Weight approx. [kg/100m]	Ampacity I _B [A] [†]	Permitted tensile load [N]
Control cables 11YMSL11Y-J	12 G 1	0667- 12 G 1#	11.0 - 11.8	24.6	8.0	180
	18 G 1	0667- 18 G 1#	13.8 - 14.6	34.5	7.1	270
	25 G 1	0667- 25 G 1#	15.7 - 16.7	44.5	6.0	375
	3 G 1.5	0667- 3 G 1,5#	7.1 - 7.7	9.0	18.0	65
	4 G 1.5	0667- 4 G 1,5#	7.8 - 8.4	10.8	18.0	90
	5 G 1.5	0667- 5 G 1,5#	8.5 - 9.1	12.7	15.3	110
	7 G 1.5	0667- 7 G 1,5#	9.9 - 10.7	16.9	11.3	155
	12 G 1.5	0667- 12 G 1,5#	13.4 - 14.2	35.1	9.5	270
	18 G 1.5	0667- 18 G 1,5#	17.0 - 18.0	49.5	8.5	405
	25 G 1.5	0667- 25 G 1,5#	20.0 - 21.2	66.5	7.2	560
	4 G 2.5	0667- 4 G 2,5#	9.1 - 9.7	15.6	26.0	150
	5 G 2.5	0667- 5 G 2,5#	9.8 - 10.6	18.6	22.1	185
	7 G 2.5	0667- 7 G 2,5#	11.8 - 12.6	24.9	16.4	260
	12 G 2.5	0667- 12 G 2,5#	16.4 - 17.4	52.7	13.8	450
	18 G 2.5	0667- 18 G 2,5#	21.8 - 23.0	82.0	12.2	675
25 G 2.5	0667- 25 G 2,5#	24.6 - 26.2	102.5	10.4	935	
Power cables, 1-core 11YMSL11Y-O	1 x 6	0667- 1 x 6#	6.5 - 7.1	9.2	54.0	90
	1 x 10	0667- 1 x 10#	7.9 - 8.5	13.7	73.0	150
	1 x 16	0667- 1 x 16#	9.2 - 10.0	20.7	98.0	240
	1 x 25	0667- 1 x 25#	11.0 - 11.8	29.8	129.0	375
	1 x 35	0667- 1 x 35#	12.2 - 13.0	39.0	158.0	525
	1 x 50	0667- 1 x 50#	13.8 - 14.6	55.5	198.0	750
	1 x 70	0667- 1 x 70#	16.2 - 17.2	75.0	245.0	1.050
	1 x 95	0667- 1 x 95#	18.4 - 19.4	96.7	292.0	1.425
	1 x 120	0667- 1 x 120#	22.0 - 23.6	131.5	344.0	1.800
	1 x 150	0667- 1 x 150#	23.3 - 24.9	162.0	391.0	2.250

preferred series, short-term delivery

[†] The ampacity I_B is based on an ambient temperature of 30 °C with cables laid on an even, flat support at 100% duty. Varying environmental conditions, method of operation and cabling arrangement can result in considerably different ampacities (s. technical exhibit).



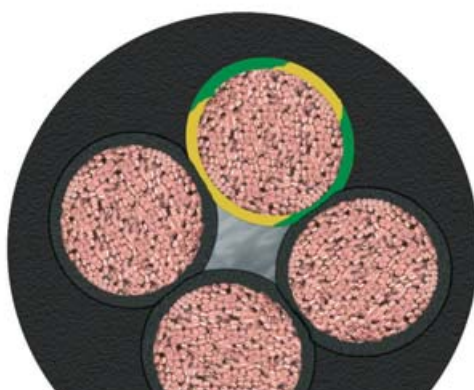
Wampfler Cable CXP-6

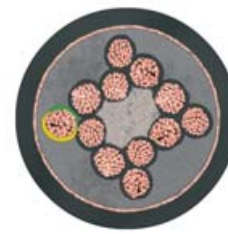
Order information



Type of cable	Number of conductors and cross section	Order No.	Outer diameter minimum/maximum [mm]	Weight approx. [kg/100m]	Ampacity I _B [A] [†]	Permitted tensile load [N]
Power cables 4-core 11YMSL11Y-J	4 G 4	0667- 4 G 4#	10.4 - 11.2	22.2	34.0	240
	4 G 6	0667- 4 G 6#	12.6 - 13.4	33.5	44.0	360
	4 G 10	0667- 4 G 10#	15.4 - 16.4	52.9	61.0	600
	4 G 16	0667- 4 G 16#	20.0 - 21.2	85.4	82.0	960
	4 G 25	0667- 4 G 25#	23.7 - 25.3	129.0	108.0	1.500
	4 G 35	0667- 4 G 35#	27.8 - 29.4	176.5	135.0	2.100
Power cables 5- and 7-core 11YMSL11Y-J	5 G 6	0667- 5 G 6#	14.0 - 14.8	40.3	37.4	450
	5 G 10	0667- 5 G 10#	17.1 - 18.1	67.0	44.1	750
	5 G 16	0667- 5 G 16#	22.0 - 23.2	105.0	69.7	1.200
	7 G 6	0667- 7 G 6#	16.8 - 17.8	55.5	27.7	630
preferred series, short-term delivery						

[†] The ampacity I_B is based on an ambient temperature of 30 °C with cables laid on an even, flat support at 100% duty. Varying environmental conditions, method of operation and cabling arrangement can result in considerably different ampacities (s. technical exhibit).





Wampfler Cable CXP-6

Order information

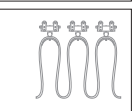
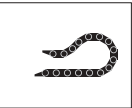


Type of cable	Number of conductors and cross section	Order No.	Outer diameter minimum/maximum [mm]	Weight approx. [kg/100m]	Ampacity I _B [A] [†]	Permitted tensile load [N]	
Control cables screened 11YMSLC11Y-J	12 G 1C	0668- 12 G 1C#	13.0 - 13.8	35.9	8.0	180	
	18 G 1C	0668- 18 G 1C#	16.8 - 17.8	48.5	7.1	270	
	25 G 1C	0668- 25 G 1C#	18.5 - 19.5	58.8	6.0	375	
	3 G 1.5C	0668- 3 G 1,5C#	9.2 - 9.8	14.6	18.0	65	
	4 G 1.5C	0668- 4 G 1,5C#	9.6 - 10.0	17.0	18.0	90	
	5 G 1.5C	0668- 5 G 1,5C#	10.4 - 11.2	19.1	15.3	110	
	7 G 1.5C	0668- 7 G 1,5C#	12.0 - 12.8	24.3	11.3	155	
	12 G 1.5C	0668- 12 G 1,5C#	15.9 - 16.9	49.5	9.5	270	
	18 G 1.5C	0668- 18 G 1,5C#	20.9 - 22.1	73.5	8.5	405	
	25 G 1.5C	0668- 25 G 1,5C#	23.8 - 25.4	89.5	7.2	560	
	4 G 2.5C	0668- 4 G 2,5C#	10.9 - 11.7	23.0	26.0	150	
	7 G 2.5C	0668- 7 G 2,5C#	14.2 - 15.2	36.8	16.4	260	
	Power cables 1-core screened 11YMSLC11Y-O	1 x 35C	0668- 1 x 35C#	12.9 - 13.7	43.5	158.0	525
		1 x 50C	0668- 1 x 50C#	14.5 - 15.5	61.8	198.0	750
		1 x 70C	0668- 1 x 70C#	17.5 - 18.5	84.4	245.0	1.050
1 x 95C		0668- 1 x 95C#	18.8 - 19.8	106.5	292.0	1.425	
1 x 120C		0668- 1 x 120C#	22.8 - 24.0	142.8	344.0	1.800	
1 x 150C		0668- 1 x 150C#	24.4 - 26.0	175.0	391.0	2.250	
Power cables screened 11YMSLC11Y-J	4 G 4C	0668- 4 G 4C#	12.5 - 13.3	30.6	34.0	240	
	4 G 6C	0668- 4 G 6C#	15.0 - 16.0	46.5	44.0	360	
	4 G 10C	0668- 4 G 10C#	18.5 - 19.5	70.0	61.0	600	
	4 G 16C	0668- 4 G 16C#	23.6 - 24.8	108.5	82.0	960	
	4 G 25C	0668- 4 G 25C#	27.2 - 28.8	157.0	108.0	1.500	
	4 G 35C	0668- 4 G 35C#	30.7 - 32.7	212.0	135.0	2.100	
preferred series, short-term delivery							

[†] The ampacity I_B is based on an ambient temperature of 30 °C with cables laid on an even, flat support at 100% duty. Varying environmental conditions, method of operation and cabling arrangement can result in considerably different ampacities (s. technical exhibit).

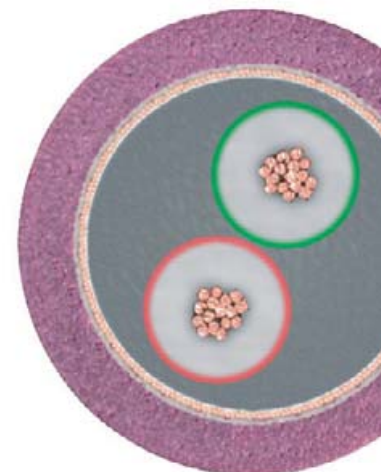
Wampfler Cable CXP-6

Order information



Type of cable	Number of conductors and cross section	Order No.	Outer diameter maximum [mm]	Weight approx. [kg/100m]	Ampacity I _B [A] [†]	Permitted tensile load [N]
Data cables screened 11YMSLC11Y-O	3 x 2 x 0.5C	0669- 3 x 2 x 0,5C#	9.1 - 9.7	14.4	4.5	45
	4 x 2 x 0.5C	0669- 4 x 2 x 0,5C#	9.6 - 10.4	16.5	3.6	60
	12 x 2 x 0.5C	0669- 12 x 2 x 0,5C#	14.7 - 15.7	36.7	1.3	180
	4 x 2 x 0.75C	0669- 4 x 2 x 0,75C#	10.6 - 11.4	16.4	7.2	90
	6 x 2 x 0.75C	0669- 6 x 2 x 0,75C#	12.3 - 13.1	28.1	6.4	135
	8 x 2 x 0.75C	0669- 8 x 2 x 0,75C#	14.8 - 15.8	39.8	5.9	180
	3 x (2 x 0.25)C	0669- 3 x (2 x 0,25)C#	11.6 - 12.4	19.4	2.5	20
	4 x (2 x 0.5)C	0669- 4 x (2 x 0,5)C#	14.0 - 14.8	28.0	3.6	60
Bus cables screened and fiber optic cables	CAN BUS 1 x 2 x 0.5C	0669- 1 x 2 x 0,5C CAN#	8.6 - 9.2	5.6	6.0	15
	CAN BUS 2 x 2 x 0.5C	0669- 2 x 2 x 0,5C CAN#	9.2 - 9.8	6.2	5.1	30
	Devicenet (2x1) + (2x0.75)C	0669- (2x1)+(2x0,75)C DN#	13.6 - 14.4	21.0	10.2	50
	Profibus Typ A 1 x 2 x 0.5C	0669- 1 x 2 x 0,5C P#	9.3 - 9.9	10.4	6.0	15
	Profibus SINELEC L2 1 x 2 x 0.5C	0669- 1 x 2 x 0,5C SP#	10.7 - 11.5	14.0	6.0	15
	Coax 3 x (1 x HF75)C	0669- 3 x (1 x HF75)C#	10.6 - 11.4	12.0		20
	LWL 6G 50-125	0669- 6G 50-125#	12.6 - 13.4	34.0		100
	LWL 6G 62.5-125	0669- 6G 62,5-125#	12.6 - 13.4	34.0		100
preferred series, short-term delivery						

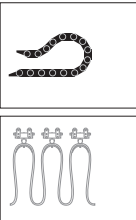
[†] The ampacity I_B is based on an ambient temperature of 30 °C with cables laid on an even, flat support at 100% duty. Varying environmental conditions, method of operation and cabling arrangement can result in considerably different ampacities (s. technical exhibit).





Wampfler Cable CXP-6

Technical data



		11YMSL11Y / 11YMSLC11Y
Electrical parameters	rated voltage	U ₀ /U = 600/1.000 V
	maximum permitted AC operating voltage	U ₀ /U = 700/1.200 V
	maximum permitted DC operating voltage	U ₀ /U = 900/1.800 V
	ampacity	accord. to table data, otherwise accord. to DIN VDE 0298 part 4
	AC test voltage	2.5 kV
Thermal parameters	ambient temperature	flexing -30 °C to + 80 °C
		fixed -35 °C to + 85 °C
	maximum permitted operating temperature of the conductor	90 °C
	short-circuit temperature of the conductor	200 °C
Mechanical parameters	minimum bending radii allowing for free movement	7.5 x Ø
	tensile load-bearing capacity	15 N/mm ² during operation for moving cables according to DIN VDE 0298 part 3
Chemical parameters	LBS-free / silicone-free	yes
	combustion behaviour	flame retardant and self-extinguishing according to DIN VDE 0482 part 265-2-1, IEC 60332-1
	resistant to ozone	yes
	resistant to humidity	yes
	UV-resistant	yes
	oil-resistant	yes
	halogen free	yes
	CFC-free	yes
Materials	insulation	thermoplastic polymer compound (TPM), halogen free
	outer sheath	polyurethane PUR, resistant to bending and tearing, halogen free, - data cables, profibus, devicenet and CANBUS : black - screened control cables up to 1mm ² : purple - screened control and power cables up to 1.5mm ² : grey : orange
Design features	conductor	bare electrolytic copper, highly flexible category 6 according to DIN VDE 0295
	shield	braided bare copper wires, coverage of approx. 85 %
	stranding	up to 7 conductors stranding in layers with reverse twist, short lay
		up to 12 conductors stranding in bundles with reverse twist, short lay
conductor identification	black with white numbers with or without green/yellow	
Standards	adapted to DIN VDE 0250 UL/CSA compliant DESINA	
Design codes	11YMSL11Y	11Y insulation material thermoplastic polymer (halogen free)
	11YMSLC11Y	MSL sheath round cable C shield of braided copper wires 11Y outer sheathing material polyurethane, (halogen free)

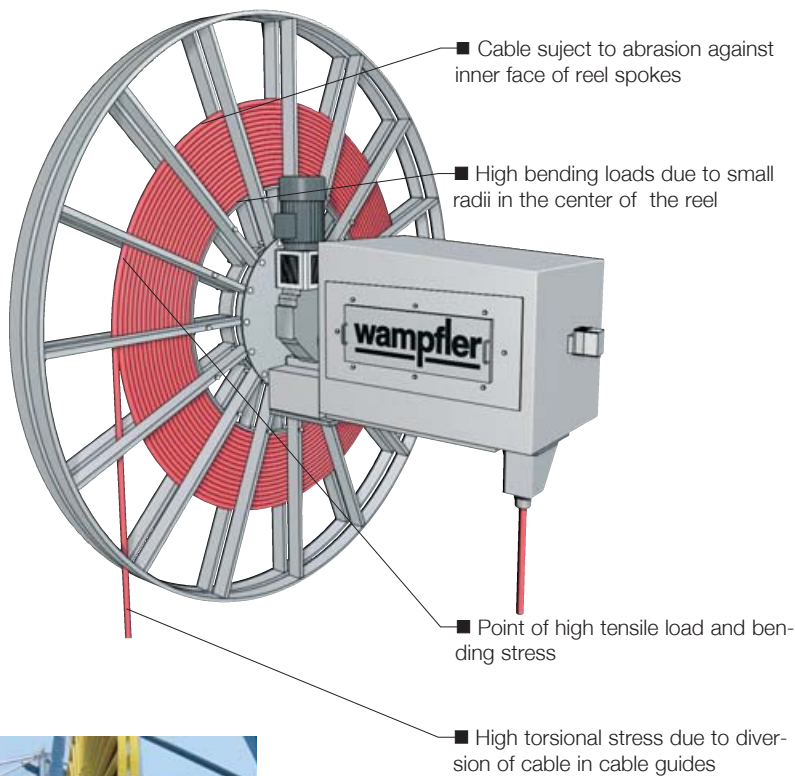


1000V
DANGER
100-1000V

SAFETY FIRST 安全第一

Wampfler Cables for cable reels

Special points as subject to stress



■ High forces on the cable caused by changing bending direction



■ Maximum tensile forces caused by high travel speeds and vertical operation

Special features

- reduced diameter and weight as a result of ideal insulation and sheathing materials
- resistance to corkscrews as a result of a stranding with reverse twist
- stable construction as a result of extruded filler
- outer sheath is highly resistant to wear even where highly mechanical forces exist
- highly resistant to torsional forces with the use of a textile mesh between inner and outer sheath
- centrally positioned load-bearing elements provide high tensile stress
- extremely high resilience thanks to a very short lay stranding
- high axial rigidity thanks to interlinked inner and outer sheaths

R-7

RXG-8

RXP-8

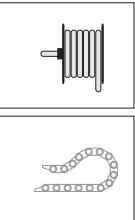
W-9

WX-10

Load-bearing capacity	low		high
Dimensions	large		small
Price level	high		low

Wampfler Cable R-7

PUR round reeling cable



Highly stable bond provided by the inner sheath

Small size as a result of optimised wall thicknesses for sheathing and core insulation

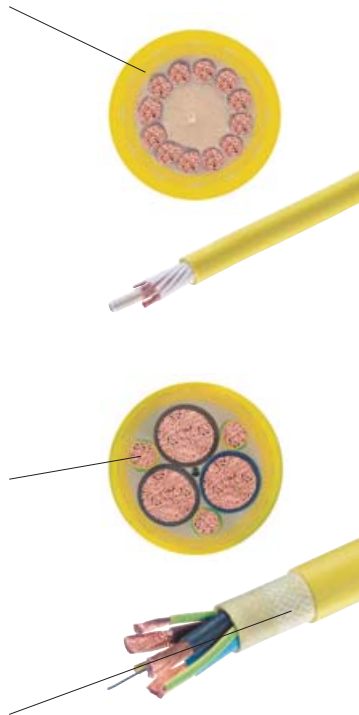
Good resilience as a result of short length of lays

Durability thanks to an outer sheath which is resistant to wear and cracking

Compact construction due to a split earth/ground conductor divided into three parts from a cross section of $3 \times 25 \text{ mm}^2 + 3\text{G}6$

Broad product line with cross sections up to $3 \times 240 \text{ mm}^2$

High torsional rigidity with the use of a supporting mesh vulcanised between inner and outer sheaths



Characteristics

Resilient PUR round cable

main application: Standard spring and motorized cable reels
secondary application: energy guiding chains

Typical applications

- transfer car
- hoisting gear with small to middle hoisting heights
- longitudinal scrapers in sewage treatment plants
- stage and theatre applications
- handling systems

Electrical parameters

rated voltage $U_0/U = 600/1.000 \text{ V}$

Mechanical load-bearing capacity

travel speed up to 100 m/min
(> 100 m/min on request)
minimum bending radii $8 \times \varnothing$ for reeling

Thermal / Chemical specifications

ambient temperature
- flexing - 20 °C... + 70 °C
- fixed - 30 °C... + 70 °C

unlimited resistance to atmospheric corrosion

Important features

- resistant to ozone
- resistant to humidity
- oil-resistant
- UV-resistant
- LBS-free / silicone-free

Design features

conductor flexible (cat. 5) according to DIN VDE 0295
sheath polyurethane (PUR), yellow
core insulation special polymer

Brand Buflex DGR

Particularly suitable, if...

- small to medium dynamic loads act on the system
- the cable is subject to high tension, bending and torsional forces
- the priority is a cost-effective cable
- a small diameter cable, providing a compact reeling system is required
- the operating temperatures do not exceed 70 °C

Wampfler Cable R-7

Order information



Type of cable	Number of conductors and cross section	Order No.	Outer diameter minimum/maximum [mm]	Weight approx. [kg/100m]	Ampacity I _B [A] [†]	Permitted tensile load [N]
Control cables PUR 12YRDT11Y11Y	7 x 1.5	0642- 7 x 1,5#	11.5 - 13.0	21.0	10.1	210
	12 x 1.5	0642- 12 x 1,5#	16.0 - 17.5	33.0	7.7	360
	18 x 1.5	0642- 18 x 1,5#	16.0 - 17.5	41.0	6.7	540
	24 x 1.5	0642- 24 x 1,5#	19.0 - 21.5	68.0	6.0	720
	36 x 1.5	0642- 36 x 1,5#	22.0 - 24.0	90.0	5.4	1.080
	4 G 2.5	0642- 4 G 2,5#	10.0 - 11.5	18.0	20.7	200
	5 G 2.5	0642- 5 G 2,5#	11.0 - 12.5	22.0	17.6	250
	7 x 2.5	0642- 7 x 2,5#	12.5 - 14.0	30.0	14.5	350
	12 x 2.5	0642- 12 x 2,5#	18.5 - 20.5	61.0	11.1	600
	18 x 2.5	0642- 18 x 2,5#	18.5 - 20.5	74.0	10.0	900
24 x 2.5	0642- 24 x 2,5#	22.5 - 24.5	105.0	8.8	1.200	
36 x 2.5	0642- 36 x 2,5#	25.0 - 28.0	143.0	7.7	1.800	
combined PUR control cables 12YRDT11Y11Y	26 x 2.5 + 4 x 1.5C	0643- 26x2,5 + 4x1,5C	22.5 - 24.5	97.0	8.2 + 5.4	1.420

preferred series, short-term delivery

[†] The ampacity I_B is based on an ambient temperature of 30°C, a monospiral reel coil at 100% duty. Varying environmental conditions, method of operation and cabling arrangement can result in considerably different ampacities (s. technical exhibit).



Wampfler Cable R-7

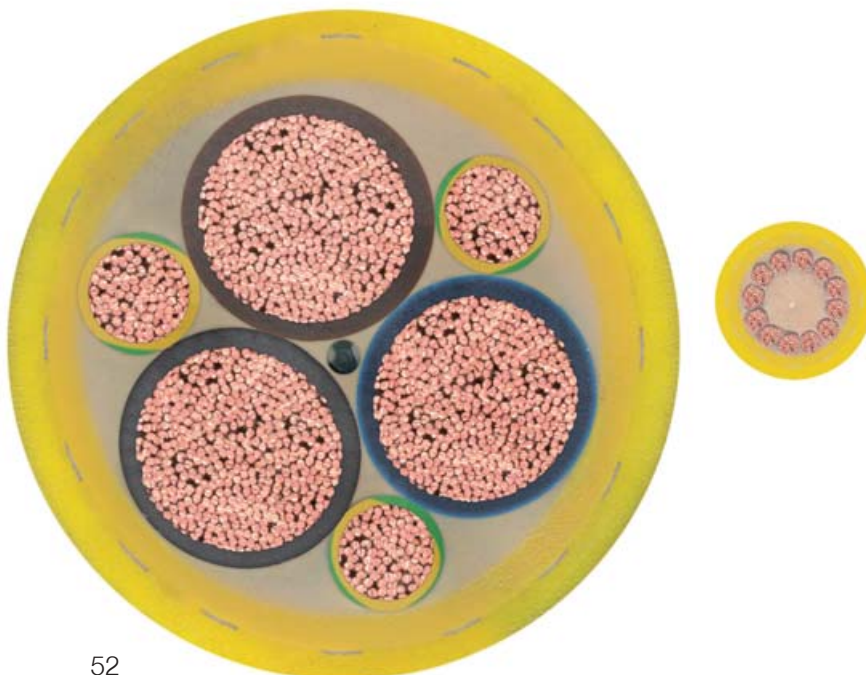
Order information



Type of cable	Number of conductors and cross section	Order No.	Outer diameter minimum/maximum [mm]	Weight approx. [kg/100m]	Ampacity I _B [A] [†]	Permitted tensile load [N]
Power cables PUR 12YRDT11Y11Y	4 G 4	0642- 4 G 4#	11.5 - 13.0	26.0	27.3	320
	4 G 6	0642- 4 G 6#	13.0 - 14.5	37.0	35.3	480
	4 G 10	0642- 4 G 10#	15.5 - 17.0	58.0	48.8	800
	4 G 16	0642- 4 G 16#	19.5 - 21.5	92.0	65.6	1.280
	5 G 6	0642- 5 G 6#	15.0 - 16.5	45.0	29.9	600
	5 G 16	0642- 5 G 16#	22.0 - 24.0	110.0	55.8	1.600
Power cables PUR with an earth conductor divided into three parts 12YRDT11Y11Y	3 x 25 + 3 G 6	0644- 4 G 25#	23.5 - 25.5	124.0	86.4	1.500
	3 x 35 + 3 G 6	0644- 4 G 35#	27.0 - 29.5	164.0	108.1	2.100
	3 x 50 + 3 G 10	0644- 4 G 50#	30.0 - 32.5	224.0	134.4	3.000
	3 x 70 + 3 G 16	0644- 4 G 70#	35.0 - 37.5	310.0	165.6	4.200
	3 x 95 + 3 G 16	0644- 4 G 95#	39.0 - 43.0	389.0	200.0	5.700
	3 x 120 + 3 G 25	0644- 4 G 120#	44.0 - 48.0	508.0	233.6	7.200
	3 x 150 + 3 G 25	0644- 4 G 150#	49.0 - 53.0	616.0	268.1	9.000
	3 x 185 + 3 G 35	0644- 4 G 185#	54.5 - 59.0	768.0	305.6	11.100
3 x 240 + 3 G 50	0644- 4 G 240#	60.5 - 65.0	987.0	362.4	14.400	

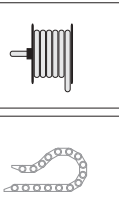
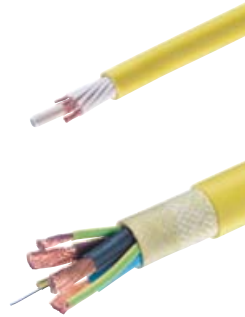
preferred series, short-term delivery

[†] The ampacity I_B is based on an ambient temperature of 30°C, a monospiral reel coil at 100% duty. Varying environmental conditions, method of operation and cabling arrangement can result in considerably different ampacities (s. technical exhibit).

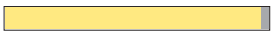
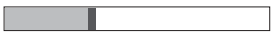



Wampfler Cable R-7

Technical data

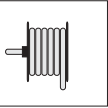


		12YRDT11Y11Y
Electrical parameters	rated voltage	U ₀ /U = 600/1.000 V
	maximum permitted AC operating voltage	U ₀ /U = 700/1.200 V
	maximum permitted DC operating voltage	U ₀ /U = 900/1.800 V
	ampacity	accord. to table data, otherwise accord. to DIN VDE 0298 part 4
	AC test voltage	2.5 kV
Thermal parameters	ambient temperature	flexing -20 °C to + 70 °C
		fixed -30 °C to + 70 °C
	maximum permitted operating temperature of the conductor	90 °C
	short-circuit temperature of the conductor	250 °C
Mechanical parameters	minimum bending radii allowing for free movement	8 x Ø
	tensile load-bearing capacity	20 N/mm ² during operation for flexing cables
Chemical parameters	LBS-free / silicone-free	yes
	combustion behaviour	flame retardant and self-extinguishing according to DIN VDE 0482 part 265-2-1, IEC 60332-1
	resistant to ozone	yes
	resistant to humidity	yes
	UV-resistant	yes
	oil-resistant	yes
	halogen free	no (the outer sheath is halogen-free)
Materials	insulation	base material polyester (PE)
	inner sheath	polyurethane over filler
	supportive braid	vulcanised between the sheaths
	outer sheath	wear-resistant polyurethane PUR, halogen free, yellow
Design features	conductor	bare electrolytic copper, flexible cat.5 accord. to DIN VDE 0295
	reinforcement	central textile element
	shield	tin-plated braided copper wires, coverage of approx. 80 %
	stranding	core is stranded in layers
	conductor coding	according to DIN VDE 0293, part 308 up to 5 conductors coloured, 6 or more conductors black with white numbers with or without green/yellow
Standards	adapted to DIN VDE 0250	
Design codes	12YRDT11Y11Y	12Y core insulation based on polyester RDT round cables for use on reels 11Y inner sheath based on PUR 11Y outer sheath PUR

Load-bearing capacity	low		high
Dimensions	large		small
Price level	high		low

Wampfler Cable RXG-8

Round reeling cable



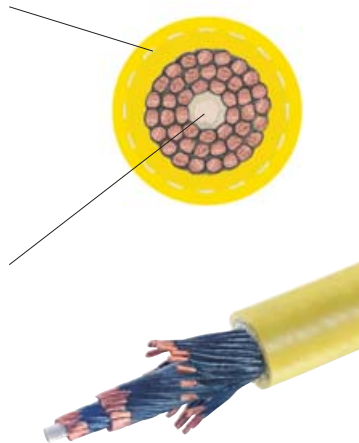
Maximum torsional rigidity due to supporting polyester fibers vulcanised into the sheath

Insensitive to external mechanical load due to a robust and wear-resistant sheathing material

Maximum load-bearing capacity as a result of Aramid reinforcement with a break strength of 20 kN

Very high rigidity as a result of a very small stranding lay

High axial rigidity due to optimally interlinked inner and outer sheaths in a 2-layer "sandwich" structure



Characteristics

Highly resilient round cables with high tensile strength for use on reels

main application: motorized cable reels

Typical applications

- vertical applications operating at high speed and acceleration
- vertical power supply for spreader operations
- up to 70 m of freely suspended cable subject to wind
- grab cranes with vertical power supply

Electrical parameters

rated voltage $U_0/U = 600/1.000 \text{ V}$

Mechanical load-bearing capacity

travel speed up to 180 m/min horizontal reeling
up to 160 m/min vertical reeling
(> 180 m/min on request)

minimum bending radii 6 x \varnothing for reeling
7.5 x \varnothing on diversion rollers assemblies
20 x \varnothing for s-shaped track curves

tensile load-bearing capacity 20 kN reinforcement element

Thermal / Chemical specifications

ambient temperature

- flexing - 35 °C... + 60 °C
- fixed - 50 °C... + 80 °C

unlimited resistance to atmospheric corrosion

Important features

- resistant to ozone
- waterproof
- oil-resistant
- UV-resistant
- LBS-free / silicone-free
- of low flammability

Design features

conductor particularly flexible (cat. FS) according to Prysmian specifications

sheath wear-resistant rubber compound
base material PCP

core insulation special compound based on EPR

Brand Cordaflex SMK-V

Particularly suitable, if...

- very high combined tensile and bending loads occur during the operation (Spreader)
- extreme torsional forces exist which must be absorbed with a specially designed cable constructed of high quality materials
- very high acceleration forces exist and need to be absorbed by strain relief members, not the conductor
- cable is operating through diversion rollers
- a UL listing is required

Wampfler Cable RXG-8

Order information

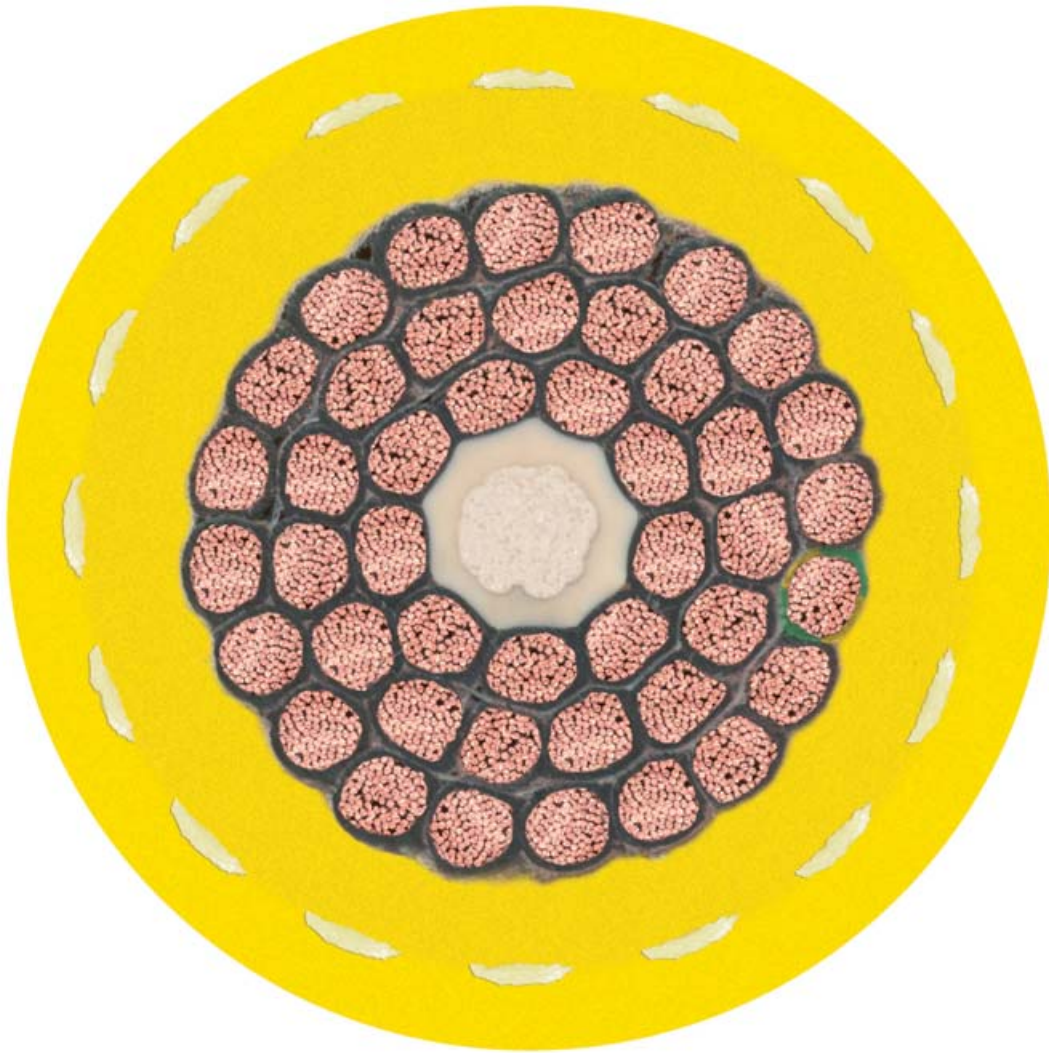
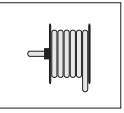


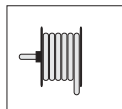
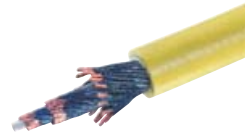
Type of cable	Number of conductors and cross section	Order No.	Outer diameter minimum/maximum [mm]	Weight approx. [kg/100m]	Ampacity I _B [A] [†]	Permitted tensile load [N]
Control cables with a reinforcement of 20 kN (N)SHTÖU-J SMK-V	49 G 1	0617- 49 G 1 - 20 kN#	26.6 - 29.6	119.0	4.0	3.200
	24 G 2.5	0617- 24 G 2,5 - 20 kN#	26.6 - 29.2	129.0	8.3	3.600
	30 G 2.5	0617- 30 G 2,5 - 20 kN#	29.4 - 32.4	161.0	7.7	4.100
	44 G 2.5	0617- 44 G 2,5 - 20 kN#	34.1 - 37.1	216.0	7.1	5.100
	56 G 2.5	0617- 56 G 2,5 - 20 kN#	40.1 - 43.1	284.0	6.5	6.000

preferred series, short-term delivery

[†] The ampacity I_B is based on an ambient temperature of 30°C, 1-layer winding on a cylindrical reel at 100% duty. Varying environmental conditions, method of operation and cabling arrangement can result in considerably different ampacities (s. technical exhibit).







Wampfler Cable RXG-8

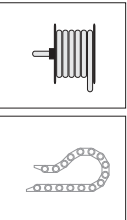
Technical data

		(N)SHTÖU	
Electrical parameters	rated voltage	U ₀ /U = 600/1.000 V	
	maximum permitted AC operating voltage	U ₀ /U = 700/1.200 V	
	maximum permitted DC operating voltage	U ₀ /U = 900/1.800 V	
	ampacity	accord. to table data, otherwise accord. to DIN VDE 0298 part 4	
	AC test voltage	2.5 kV	
Thermal parameters	ambient temperature	flexing -35 °C to + 80 °C fixed -50 °C to + 80 °C	
	maximum permitted operating temperature of the conductor	90 °C	
	short-circuit temperature of the conductor	200 °C	
Mechanical parameters	minimum radii for continuous flexing	6 x Ø for reeling 7.5 x Ø diversion rollers assemblies 20 x Ø for s-shaped track curves	
	torsional stress	± 50 °/m	
	tensile load-bearing capacity	30 N/mm ² during operation for flexing cables	
Chemical parameters	LBS-free / silicone-free	yes	
	combustion behaviour	of low flammability according to DIN VDE 0482 part 265-2-1, IEC 60332-1, IEC 60332-1	
	resistant to ozone	yes	
	resistant to humidity	yes	
	UV-resistant	yes	
	suitability for use in water	yes	
	oil-resistant	yes	
halogen free	no		
Materials	insulation	ethylene-propylene-rubber (EPR)	
	inner sheath	polychloroprene (PCP)	
	supportive braid	protective braid against torsional stress, constructed of polyester fibers and incorporated during vulcanisation	
	outer sheath	wear-resistant polychloroprene (PCP), yellow	
Design features	conductor	bare electrolytic copper, very flexible, more flexible than category 5 according to DIN VDE 0295	
	reinforcement	central Aramid reinforcement for maximum mechanical properties	
	stranding	conductors stranded in layers, very short lay	
	conductor coding	according to DIN VDE 0293 part 308, 6 or more conductors black with white numbers with green/yellow	
Standards	adapted to DIN VDE 0250		
Design codes	(N)SHTÖU	(N)	adapted to a VDE standard
		SHT	1 kV cable suitable for use on reels (heavy hand cable for use on reels)
		Ö	oil-resistant outer sheath according to DIN VDE 0472 part 803
		U	outer sheath of low flammability according to DIN VDE 0472 part 804, "fire-proof"

Load-bearing capacity	low		high
Dimensions	large		small
Price level	high		low

Wampfler Cable RXP-8

Round reeling cable



Maximum torsional rigidity due to supporting braid with high tensile strength vulcanised into the sheath

Insensitive to dirt as a result of adhesion-free sheath surface

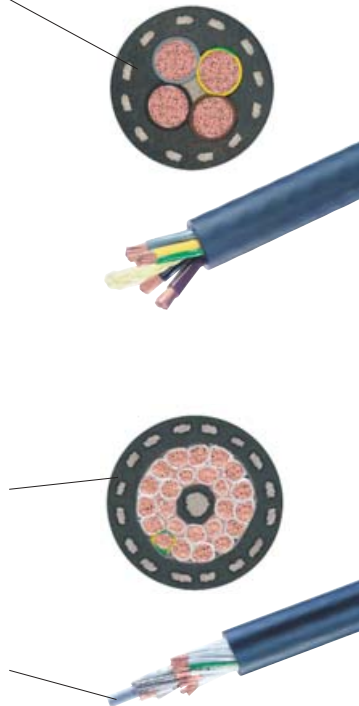
Smallest & favourable reel dimensions as a result of minimized cable diameter and weight

Broad application possibilities due to high quality materials used for core insulation and outer sheath

High axial rigidity thanks to optimally interlinked inner and outer sheaths

Good resilience as a result of flexible short lay cores

Maximum rigidity due to textile reinforcement member located centrally



Characteristics

Very resilient round cable suitable for use on reels

main application: spring or motorized cable reels
secondary application: energy guiding chains

Typical applications

- vertically operating hoisting gear
- spreader vertical transfer
- sewage plants
- magnet grabs
- Stackers & Reclaimers
- ship unloaders
- transfer cars
- lifting equipment

Electrical parameters

rated voltage $U_0/U = 600/1.000 \text{ V}$

Mechanical load-bearing capacity

travel speed up to 180 m/min
minimum bending radii 6 x \varnothing for reeling
7.5 x \varnothing diversion rollers assemblies
20 x \varnothing for s-shaped track curves

Thermal / Chemical specifications

ambient temperature
- flexing - 40 °C... + 80 °C
- fixed - 50 °C... + 80 °C

unlimited resistance to atmospheric corrosion

Important features

- halogen free
- flame retardant
- CFC-free
- oil-resistant
- UV-resistant
- LBS-free / silicone-free
- resistant to humidity

Design features

conductor flexible (cat. 5) according to DIN VDE 0295
sheath wear-resistant PUR compounds
core insulation halogen-free polyester

Brands

Trommelflex PUR-HF
Semoflex Drum

Particularly suitable, if...

- application applies high combined tensile and bending forces
- high torsional loads need to be absorbed
- very high acceleration forces need to be absorbed by reinforcements
- cable is operating through diversion rollers
- reel sizes need to be kept to the smallest possible size due to space limitations
- the priorities are reliability and durability
- the operating temperatures can reach up to 80 °C

Wampfler Cable RXP-8

Order information



Type of cable	Number of conductors and cross section	Order No.	Outer diameter minimum/maximum [mm]	Weight approx. [kg/100m]	Ampacity I _B [A] [†]	Permitted tensile load [N]
Control cables 12YHRDT11YH	4 G 1.5	0632- 4 G 1,5#	9.9 - 11.1	15.0	14.4	150
	5 G 1.5	0632- 5 G 1,5#	10.6 - 11.8	18.0	12.2	187
	7 G 1.5	0632- 7 G 1,5#	11.9 - 13.3	23.0	10.1	262
	12 G 1.5	0632- 12 G 1,5#	15.3 - 16.9	36.0	7.6	450
	18 G 1.5	0632- 18 G 1,5#	16.1 - 17.9	47.0	6.8	675
	24 G 1.5	0632- 24 G 1,5#	20.4 - 22.6	59.0	6.0	900
	30 G 1.5	0632- 30 G 1,5#	21.6 - 24.2	71.0	5.4	1.125
	42 G 1.5 [‡]	0638- 42 G 1,5#	26.0 - 27.0	105.6	5.2	1.575
	4 G 2.5	0632- 4 G 2,5#	10.9 - 12.1	21.0	20.8	250
	5 G 2.5	0632- 5 G 2,5#	11.6 - 12.8	24.0	17.7	312
	7 G 2.5	0632- 7 G 2,5#	12.6 - 14.0	31.0	14.6	437
	12 G 2.5	0632- 12 G 2,5#	19.6 - 20.2	48.0	11.0	750
	18 G 2.5	0632- 18 G 2,5#	18.5 - 20.5	68.0	9.8	1.125
	24 G 2.5	0632- 24 G 2,5#	23.1 - 25.5	82.0	8.7	1.500
	30 G 2.5	0632- 30 G 2,5#	25.9 - 28.7	97.0	7.7	1.875
	48 G 2.5	0632- 48 G 2,5#	42.2 - 44.2	248.5	6.8	3.000

preferred series, short-term delivery

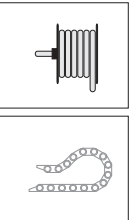
[†] The ampacity I_B is based on an ambient temperature of 30°C, a monospiral reel coil at 100% duty. Varying environmental conditions, method of operation and cabling arrangement can result in considerably different ampacities (s. technical exhibit).

[‡] sheath colour yellow



Wampfler Cable RXP-8

Order information

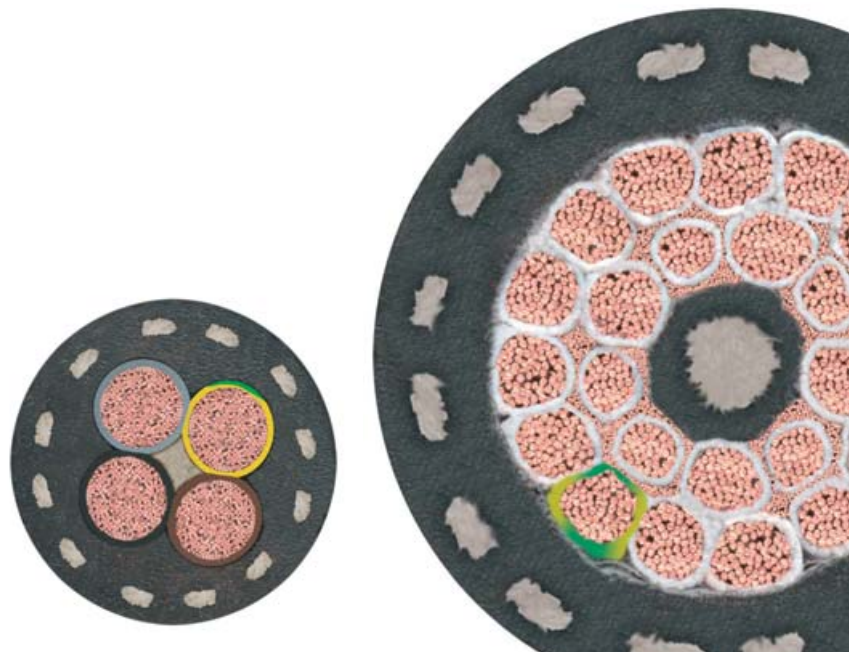


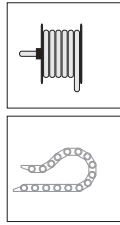
Type of cable	Number of conductors and cross section	Order No.	Outer diameter minimum/maximum [mm]	Weight approx. [kg/100m]	Ampacity I _B [A] [†]	Permitted tensile load [N]	
Power cables 12YHRDT11YH	4 G 4	0632- 4 G 4#	12.0 - 13.4	28.0	27.2	400	
	4 G 6	0632- 4 G 6#	13.2 - 14.8	37.0	35.2	600	
	4 G 10	0632- 4 G 10#	17.1 - 19.9	63.0	48.8	1.000	
	4 G 16	0632- 4 G 16#	21.2 - 24.1	94.0	65.6	1.600	
	4 G 25	0632- 4 G 25#	24.5 - 27.1	127.0	86.4	2.500	
	4 G 35	0632- 4 G 35#	26.9 - 30.4	212.0	108.0	3.500	
	4 G 50	0632- 4 G 50#	31.9 - 35.1	263.0	134.4	5.000	
	4 G 70	0632- 4 G 70#	37.8 - 41.8	332.0	165.6	7.000	
	4 G 95	0632- 4 G 95#	44.4 - 49.2	469.0	200.0	9.500	
	5 G 4	0632- 5 G 4#	13.1 - 14.5	32.0	23.1	500	
	5 G 6	0632- 5 G 6#	14.5 - 16.1	43.0	29.9	750	
	5 G 10	0632- 5 G 10#	18.5 - 20.5	70.0	41.5	1.250	
	5 G 16	0632- 5 G 16#	23.5 - 25.5	107.0	55.8	2.000	
	7 G 6 [‡]	0638- 7 G 6#	20.4 - 21.4	71.5	27.7	1.050	
	combined cables, conductors unscreened and screened PUR 12YHRDT11YH	19G2.5 + 5x1.5C	0632- 19G2,5+5x1,5C#	24.9 - 25.5	97.0	8.3 + 5.8	1.375
		4G16 + 2x(4x1.5)C	0632- 4G16+2x(4x1,5)C#	24.0 - 25.3	120.0	34.1 + 7.5	1.900
		4G6 + 4x(2x1.5)C	0632- 4G6+4x(2x1,5)C#	22.7 - 24.3	82.0	18.3 + 7.5	900
		6 x (2 x 1) C	0632- 6 x (2 x 1)C#	22.0 - 23.0	64.0	6.9	300

preferred series, short-term delivery

[†] The ampacity I_B is based on an ambient temperature of 30°C, a monospiral reel coil at 100% duty. Varying environmental conditions, method of operation and cabling arrangement can result in considerably different ampacities (s. technical exhibit).

[‡] sheath colour yellow





Wampfler Cable RXP-8

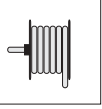
Technical data

		12YHRDT11YH
Electrical parameters	rated voltage	U ₀ /U = 600/1.000 V
	maximum permitted AC operating voltage	U ₀ /U = 700/1.200 V
	maximum permitted DC operating voltage	U ₀ /U = 900/1.800 V
	ampacity	accord. to table data, otherwise accord. to DIN VDE 0298 part 4
	AC test voltage	2.5 kV
Thermal parameters	ambient temperature	flexing -40 °C to + 80 °C fixed -50 °C to + 80 °C
	maximum permitted operating temperature of the conductor	80 °C
	short-circuit temperature of the conductor	200 °C
Mechanical parameters	minimum radii for continuous flexing	6 x Ø for reeling 7.5 x Ø diversion rollers assemblies 20 x Ø for s-shaped track curves
	tensile load-bearing capacity	25 N/mm ² during operation for flexing cables
Chemical parameters	LBS-free / silicone-free	yes
	combustion behaviour	flame retardant and self-extinguishing according to DIN VDE 0482 part 265-2-1, IEC 60332-1
	resistant to ozone	yes
	resistant to humidity	yes
	UV-resistant	yes
	oil-resistant	yes
	halogen free	yes
Materials	insulation	base material polyester, halogen free
	inner sheath	wear-resistant polyurethane PUR, halogen free, black
	supportive braid	textile protective braid against torsional stress
	outer sheath	wear-resistant polyurethane PUR, halogen free, black
Design features	conductor	bare electrolytic copper, flexible cat. 5 accord. to DIN VDE 0295
	reinforcement	central textile element
	shield	tin-plated braided copper wires coverage of approx. 80 %
	stranding	core is stranded in layers
	conductor coding	according to DIN VDE 0293, part 308 up to 5 conductors coloured, 6 or more conductors black with white numbers with or without green/yellow
Standards		adapted to DIN VDE 0250
Design codes	12YHRDT11YH	12YH core insulation based on polyester, halogen free RDT round cables for use on reels 11YH material for inner and outer sheathing polyurethane, halogen free

Load-bearing capacity	low		high
Dimensions	large		small
Price level	high		low

Wampfler Cable W-9

Round high voltage reeling cable



High torsional rigidity with the use of a supporting mesh vulcanised between inner and outer sheaths

Easy separation of individual layers of core insulation thanks to a special EPR-based compound

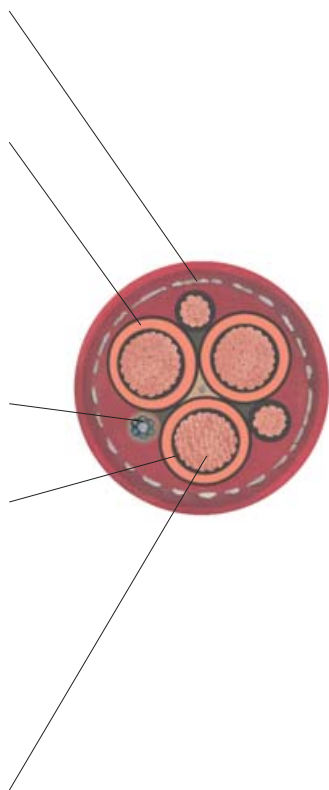
Small & favourable reel dimensions as a result of minimised cable diameter & weight

High capacity of data transfer with 12 optic fibres in the standard range

Best mechanical stability of core insulation sheathings thanks to simultaneous 3-layer extrusion

Very high tensile strength-resulting from compact and ideally interconnected reinforcements with high-quality materials

Good resilience as a result of particularly flexible short lay FS conductor



Particularly suitable, if...

- small to medium dynamic loads are expected during reel operation
- the reeling duty cycle is in the low to medium range
- a reliable and durable, yet cost effective cable is desired
- the cable is requested to operate max. through one diversion roller assembly
- up to 12 optic fibres are required
- the operating temperatures do not exceed 60 °C

Characteristics

Resilient cable suitable for use on reelsr

Main application: motorized cable reels

Typical applications

- container cranes main power supply with low mounting heights (< 7 m) and low to medium travel speeds
- heavy mining equipment
- Stackers & Reclaimers
- ship unloaders

Electrical parameters

rated voltage	U ₀ /U = 3.6 / 6 kV
	U ₀ /U = 6.0 / 10.0 kV
	U ₀ /U = 8.7 / 15.0 kV
	U ₀ /U = 12.0 / 20.0 kV

higher voltage grades available on request

Mechanical load-bearing capacity

travel speed	up to v = 80 m/min (> 80 m/min on request)
minimum bending radii	6 x Ø static 12 x Ø on the reel 15 x Ø at a track curve 20 x Ø at an S-track curve

Thermal / Chemical specifications

ambient temperature	
- flexing	- 25 °C... + 60 °C
- fixed	- 40 °C... + 80 °C
unlimited resistance to atmospheric corrosion	

Important features

- flame retardant
- CFC-free
- oil-resistant
- UV-resistant
- LBS-free / silicone-free
- resistant to humidity

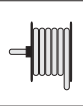
Design features

conductor	highly flexible, finely stranded (more flexible than category 5 according to DIN VDE 0295)
sheath	wear-resistant PCP compound (polychloroprene)
core insulation	triple and simultaneously extruded insulation constructed of HV-EPR, semiconducting inner and outer layer

Brand Protolon (M)-R

Wampfler Cable W-9

Order information



Type of cable	Number of conductors and cross section	Order No.	Outer diameter min. / max. [mm]	Weight approx. [kg/km]	Ampacity I _B [A] [†]	Permitted tensile load [N]
Round Reeling Cable R-(N)TSCGEWOEU 3.6 / 6 kV	3 x 25 x 3G25/3	0684- 4 G 25#	36.3 - 39.3	2.215	108.8	1.500
	3 x 35 x 3G25/3	0684- 4 G 35#	40.1 - 43.1	2.767	129.6	2.100
	3 x 50 x 3G25/3	0684- 4 G 50#	43.8 - 46.8	3.439	161.6	3.000
	3 x 70 x 3G35/3	0684- 4 G 70#	47.5 - 50.5	4.382	200.0	4.200
	3 x 95 x 3G50/3	0684- 4 G 95#	52.7 - 56.7	5.635	240.8	5.700
	3 x 120 x 3G70/3	0684- 4 G 120#	56.8 - 60.8	6.782	281.6	7.200
	3 x 150 x 3G70/3	0684- 4 G 150#	61.9 - 65.9	8.180	323.2	9.000
Round Reeling Cable R-(N)TSCGEWOEU 6 / 10 kV	3 x 25 x 3G25/3	0685- 4 G 25#	38.6 - 41.6	2.416	104.8	1.500
	3 x 35 x 3G25/3	0685- 4 G 35#	41.4 - 44.4	2.881	129.6	2.100
	3 x 50 x 3G25/3	0685- 4 G 50#	45.1 - 48.1	3.560	161.6	3.000
	3 x 70 x 3G35/3	0685- 4 G 70#	49.7 - 53.7	4.667	200.0	4.200
	3 x 95 x 3G50/3	0685- 4 G 95#	54.0 - 58.0	5.810	240.8	5.700
	3 x 120 x 3G70/3	0685- 4 G 120#	58.1 - 62.1	7.037	281.6	7.200
	3 x 150 x 3G70/3	0685- 4 G 150#	63.2 - 67.2	8.350	323.2	9.000
Round Reeling Cable R-(N)TSCGEWOEU 8.7 / 15 kV	3 x 25 x 3G25/3	0686- 4 G 25#	42.1 - 45.1	2.707	111.2	1.500
	3 x 35 x 3G25/3	0686- 4 G 35#	44.9 - 47.9	3.198	137.6	2.100
	3 x 50 x 3G25/3	0686- 4 G 50#	49.5 - 53.5	4.083	172.8	3.000
	3 x 70 x 3G35/3	0686- 4 G 70#	53.1 - 57.1	5.028	212.0	4.200
	3 x 95 x 3G50/3	0686- 4 G 95#	57.3 - 61.3	6.216	255.2	5.700
	3 x 120 x 3G70/3	0686- 4 G 120#	63.0 - 67.0	7.673	296.8	7.200
	3 x 150 x 3G70/3	0686- 4 G 150#	66.6 - 70.6	8.852	342.4	9.000
Round Reeling Cable R-(N)TSCGEWOEU 12 / 20 kV	3 x 25 x 3G25/3	0687- 4 G 25#	45.1 - 48.1	2.982	111.2	1.500
	3 x 35 x 3G25/3	0687- 4 G 35#	47.9 - 50.9	3.511	137.6	2.100
	3 x 50 x 3G25/3	0687- 4 G 50#	52.5 - 56.5	4.399	172.8	3.000
	3 x 70 x 3G35/3	0687- 4 G 70#	56.2 - 60.2	5.411	212.0	4.200
	3 x 95 x 3G50/3	0687- 4 G 95#	61.9 - 65.9	6.783	255.2	5.700
	3 x 120 x 3G70/3	0687- 4 G 120#	66.0 - 70.0	8.068	296.8	7.200
	3 x 150 x 3G70/3	0687- 4 G 150#	69.7 - 73.7	9.323	342.4	9.000

[†] The ampacity I_B is based on an ambient temperature of 30°C, a monospiral reel coil at 100% duty. Varying environmental conditions, method of operation and cabling arrangement can result in considerably different ampacities (s. technical exhibit).



Wampfler Cable W-9

Order information



Type of cable	Number of conductors and cross section	Order No.	Outer diameter min. / max. [mm]	Weight approx. [kg/km]	Ampacity I _B [A] [†]	Permitted tensile load [N]
Round Reeling Cable R-(N)TSCGEWOEU FO 3.6 / 6 kV	3x25+2 G 25/2+12FO	0684- 4 G 25+12FO#	40.2 - 43.2	2.570	104.8	1.500
	3x35+2 G 25/2+12FO	0684- 4 G 35+12FO#	41.8 - 44.8	2.940	129.6	2.100
	3x50+2 G 25/2+12FO	0684- 4 G 50+12FO#	43.8 - 46.8	3.450	161.6	3.000
	3x70+2 G 35/2+12FO	0684- 4 G 70+12FO#	47.4 - 50.4	4.370	200.0	4.200
	3x95+2 G 50/2+12FO	0684- 4 G 95+12FO#	52.7 - 56.7	5.660	240.8	5.700
	3x120+2 G 70/2+12FO	0684- 4 G 120+12FO#	56.1 - 60.1	6.810	281.6	7.200
	3x150+2 G 70/2+12FO	0684- 4 G 150+12FO#	61.8 - 65.8	8.240	323.2	9.000
Round Reeling Cable R-(N)TSCGEWOEU FO 6 / 10 kV	3x25+2 G 25/2+12FO	0685- 4 G 25+12FO#	40.9 - 43.9	2.660	104.8	1.500
	3x35+2 G 25/2+12FO	0685- 4 G 35+12FO#	43.1 - 46.1	3.060	129.6	2.100
	3x50+2 G 25/2+12FO	0685- 4 G 50+12FO#	45.1 - 48.1	3.570	161.6	3.000
	3x70+2 G 35/2+12FO	0685- 4 G 70+12FO#	49.6 - 53.6	4.670	200.0	4.200
	3x95+2 G 50/2+12FO	0685- 4 G 95+12FO#	54.0 - 58.0	5.800	240.8	5.700
	3x120+2 G 70/2+12FO	0685- 4 G 120+12FO#	58.1 - 62.1	7.040	281.6	7.200
	3x150+2 G 70/2+12FO	0685- 4 G 150+12FO#	63.1 - 67.1	8.410	323.2	9.000
Round Reeling Cable R-(N)TSCGEWOEU FO 8.7 / 15 kV	3x25+2 G 25/2+12FO	0686- 4 G 25+12FO#	43.8 - 46.8	2.890	111.2	1.500
	3x35+2 G 25/2+12FO	0686- 4 G 35+12FO#	44.8 - 47.4	3.200	137.6	2.100
	3x50+2 G 25/2+12FO	0686- 4 G 50+12FO#	49.4 - 53.4	4.090	172.8	3.000
	3x70+2 G 35/2+12FO	0686- 4 G 70+12FO#	53.1 - 57.1	5.040	212.0	4.200
	3x95+2 G 50/2+12FO	0686- 4 G 95+12FO#	57.4 - 61.4	6.200	255.2	5.700
	3x120+2 G 70/2+12FO	0686- 4 G 120+12FO#	62.9 - 66.9	7.690	296.8	7.200
	3x150+2 G 70/2+12FO	0686- 4 G 150+12FO#	66.6 - 70.6	8.880	342.4	9.000
Round Reeling Cable R-(N)TSCGEWOEU FO 12 / 20 kV	3x25+2 G 25/2+12FO	0687- 4 G 25+12FO#	45.1 - 48.1	3.000	111.2	1.500
	3x35+2 G 25/2+12FO	0687- 4 G 35+12FO#	47.9 - 50.9	3.500	137.6	2.100
	3x50+2 G 25/2+12FO	0687- 4 G 50+12FO#	52.4 - 56.4	4.400	172.8	3.000
	3x70+2 G 35/2+12FO	0687- 4 G 70+12FO#	56.1 - 60.1	5.390	212.0	4.200
	3x95+2 G 50/2+12FO	0687- 4 G 95+12FO#	61.8 - 65.6	6.780	255.2	5.700
	3x120+2 G 70/2+12FO	0687- 4 G 120+12FO#	65.9 - 69.9	8.080	296.8	7.200
	3x150+2 G 70/2+12FO	0687- 4 G 150+12FO#	69.6 - 73.6	9.310	342.4	9.000

minimum order quantity 200 m; delivery times on request

[†] The ampacity I_B is based on an ambient temperature of 30°C, monospiral reel coil at 100% duty. Varying environmental conditions, method of operation and cabling arrangement can result in considerably different ampacities (s. technical exhibit).





Wampfler Cable W-9

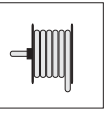
Technical data

		(N)TSCGEWOEUS
Electrical parameters	rated voltage U ₀ /U	3.6/ 6.0 kV 6.0/ 10.0 kV 8.7/15.0 kV 12.0/ 20.0 kV
	maximum permitted AC operating voltage U ₀ /U	4.2/ 7.2 kV 7.0 / 12.0 kV 10.2/18.0 kV 14.0/ 24.0 kV
	maximum permitted DC operating voltage U ₀ /U	5.4/10.8 kV 9.0 / 18.0 kV 13.0/26.0 kV 18.0/ 36.0 kV
	ampacity	accord. to table data, otherwise accord. to DIN VDE 0298 part 4
	AC test voltage	according to DIN VDE 0250 part 813
Thermal parameters	ambient temperature	flexing -25 °C to + 60 °C fixed -40 °C to + 80 °C
	maximum permitted operating temperature of the conductor	90 °C
	short-circuit temperature of the conductor	250 °C
Mechanical parameters	minimum bending radii allowing for free movement	6 x Ø static 12 x Ø on the reel 15 x Ø at a track curve 20 x Ø at an S-track curve
	torsional stress	± 100 °/m
	tensile load-bearing capacity	20 N/mm ² during operation for flexing cables
Chemical parameters	LBS-free / silicone-free	yes
	combustion behaviour	flame retardant and self-extinguishing according to DIN VDE 0482 part 265-2-1, IEC 60332-1
	resistant to ozone	yes
	UV-resistant	yes
	oil-resistant	yes
	resistant to humidity	yes
Materials	insulation	Inner conducting layer consists of a semiconducting rubber compound (acc. to DIN VDE 0207 part 20), outer conducting layer of conducting rubber, to be able to be stripped cold (simple stripping method)
	sheathing system	Inner sheath consisting of a special red EPR compound with polyester reinforced braid for protection against torsional forces. Braid is vulcanised between the inner and outer sheaths in a sandwich structure. Outer sheath of abrasion-resistant PCP based compound offering excellent resilience
Design features	conductor	bore soft electrolytic copper, particularly flexible FS conductor exceeding category 5 flexibility and resilience standards, according to DIN VDE 0295
	stranding	conductors in layers stranded with small lay, earth conductor divided into three parts in the interstices (without optic fibres) or halved in the interstices (with optic fibers)
	conductor coding	black insulation with white numbers
Standards		according to DIN VDE 0250 part 813
Design codes		R- cable suitable for use on reels
		(N) adapted to a standard
		TS heavy duty cable
		CGE conducting non-metallic covering surrounding the insulations of the outer conductors
		W resistant to atmospheric corrosion
		OE oil-resistant outer sheath
	U outer sheath of low flammability according to DIN VDE 0472 part 804 (fire-proof)	

Load-bearing capacity	low		high
Dimensions	large		small
Price level	high		low

Wampfler Cable WX-10

Round high voltage reeling cable



Maximum torsional rigidity

due to supporting polyester fibers vulcanised into the sheath

High electric strength

resulting from special insulation materials designed for high-voltage applications

Fast and easy termination

due to an outer layer consisting of semiconducting and cold-strip NBR (easy strip)

Durable and stabilised

stranded bond due to EPR core element and reinforcement in the center of the cable

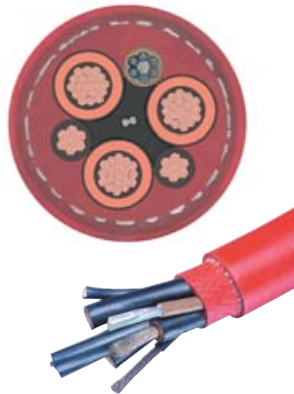
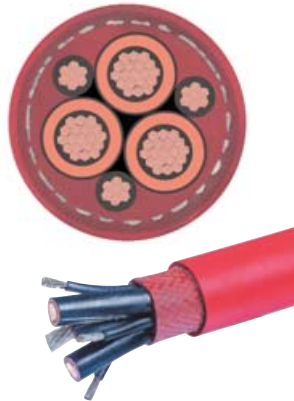
Reliable data transmission

via integrated fiber-optic cores with 250 micron protective coating

Unique combination of resilience and resistance

by the use of a 3-layer PRO-TOFIRM "sandwich" design

Excellent resilience with the use of very flexible extremely short lay cores



Characteristics

Very resilient cable suitable for use on reels

Main application: motorized cable reels

Typical applications

- container cranes main power supply, fast travel speeds, high mounting location
- heavy equipment in mining
- Stackers & Reclaimers
- ship unloaders

Electrical parameters

rated voltage $U_0/U = 6.0 / 10.0$ kV
 $U_0/U = 8.7 / 15.0$ kV
 $U_0/U = 12.0 / 20.0$ kV

high voltage grades available on request

Mechanical load-bearing capacity

travel speed up to $v = 240$ m/min
(> 240 m/min on request)
minimum bending radii $6 \times \varnothing$ static
 $12 \times \varnothing$ on the reel
 $15 \times \varnothing$ at diversion roller assemblies
 $20 \times \varnothing$ at an S-track curve

Thermal / Chemical specifications

ambient temperature
- flexing -35 °C... $+60$ °C
- fixed -50 °C... $+80$ °C

unlimited resistance to atmospheric corrosion

Important features

- flame retardant
- CFC-free
- oil-resistant
- UV-resistant
- silicone-free
- suitable for use in water

Design features

conductor highly flexible, finely stranded (exceeding cat. 5 according to DIN VDE 0295)
sheath high wear-resistant PCP compound (polychloroprene)
core insulation base material EPR in a sandwich process of high-voltage quality

Brand Protolon SMK

Particularly suitable, if...

- medium to high dynamic loads are expected during reel operation
- continuous operation under high loads is to be expected
- a reliable, robust and very durable cable is required
- the cable is required to operate through several diversion rollers assemblies
- the maximum availability of the equipment is the most important criteria
- the operating temperatures can reach down to -35 °C

Wampfler Cable WX-10

Order information



Type of cable	Number of conductors and cross section	Order No.	Outer diameter min. / max. [mm]	Weight approx. [kg/km]	Ampacity I _B [A] [†]	Permitted tensile load [N]
Round Reeling Cable (N)TSCGEWÖU 6 / 10 kV	3 x 25 + 3 G 25/3	0694- 4 G 25#	38.4 - 41.4	2.380	104.8	1.500
	3 x 35 + 3 G 25/3	0694- 4 G 35#	40.9 - 43.0	2.880	129.6	2.100
	3 x 50 + 3 G 25/3	0694- 4 G 50#	44.4 - 47.4	3.480	161.6	3.000
	3 x 70 + 3 G 35/3	0694- 4 G 70#	49.4 - 53.4	4.590	200.0	4.200
	3 x 95 + 3 G 50/3	0694- 4 G 95#	53.7 - 57.7	5.660	240.8	5.700
	3 x 120 + 3 G 70/3	0694- 4 G 120#	57.2 - 61.2	6.830	281.6	7.200
	3 x 150 + 3 G 70/3	0694- 4 G 150#	62.5 - 66.5	8.180	323.2	9.000
Round Reeling Cable (N)TSCGEWÖU 8.7 / 15 kV	3 x 25 + 3 G 25/3	0695- 4 G 25#	41.8 - 44.8	2.670	111.2	1.500
	3 x 35 + 3 G 25/3	0695- 4 G 35#	44.4 - 47.4	3.130	137.6	2.100
	3 x 50 + 3 G 25/3	0695- 4 G 50#	47.9 - 50.9	3.810	172.8	3.000
	3 x 70 + 3 G 35/3	0695- 4 G 70#	52.9 - 56.9	4.960	212.0	4.220
	3 x 95 + 3 G 50/3	0695- 4 G 95#	57.2 - 61.2	6.070	255.2	5.700
	3 x 120 + 3 G 70/3	0695- 4 G 120#	62.1 - 66.1	7.480	296.8	7.200
	3 x 150 + 3 G 70/3	0695- 4 G 150#	65.9 - 69.9	8.630	342.4	9.000
Round Reeling Cable (N)TSCGEWÖU 12 / 20 kV	3 x 25 + 3 G 25/3	0696- 4 G 25#	44.8 - 47.8	2.940	111.2	1.500
	3 x 35 + 3 G 25/3	0696- 4 G 35#	47.4 - 50.4	3.420	137.6	2.100
	3 x 50 + 3 G 25/3	0696- 4 G 50#	51.8 - 55.8	4.300	172.8	3.000
	3 x 70 + 3 G 35/3	0696- 4 G 70#	55.9 - 59.9	5.300	212.0	5.250
	3 x 95 + 3 G 50/3	0696- 4 G 95#	61.9 - 65.6	6.660	255.2	5.700
	3 x 120 + 3 G 70/3	0696- 4 G 120#	65.1 - 69.1	7.800	296.8	7.200
	3 x 150 + 3 G 70/3	0696- 4 G 150#	69.0 - 73.0	9.060	342.4	9.000

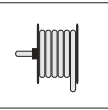
preferred series, short-term delivery

[†] The ampacity I_B is based on an ambient temperature of 30°C, a monospiral reel coil at 100% duty. Varying environmental conditions, method of operation and cabling arrangement can result in considerably different ampacities (s. technical exhibit).



Wampfler Cable WX-10

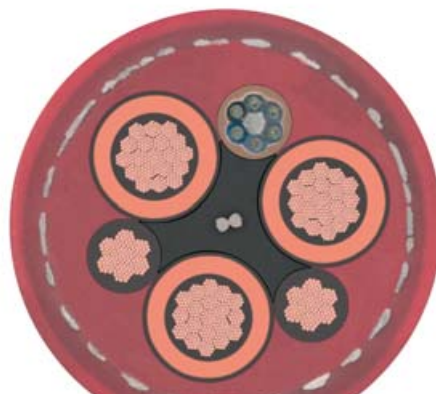
Order information



Type of cable	Number of conductors and cross section	Order No.	Outer diameter min. / max. [mm]	Weight approx. [kg/km]	Ampacity I _B [A] [†]	Permitted tensile load [N]
Round Reeling Cable (N)TSKCGEWÖU FO 6 / 10 kV	3x25+2 x 25/2+6FO	0694- 4 G 25+6FO#	40.7 - 43.7	2.610	104.8	1.500
	3x35+3 x 25/2+6FO	0694- 4 G 35+6FO#	42.7 - 45.7	3.010	129.6	2.100
	3x50+3 x 25/2+6FO	0694- 4 G 50+6FO#	46.1 - 49.1	3.680	161.6	3.000
	3x70+3 x 35/2+6FO	0694- 4 G 70+6FO#	51.1 - 55.1	4.810	200.0	4.200
	3x95+3 x 50/2+6FO	0694- 4 G 95+6FO#	56.1 - 60.1	3.000	240.8	5.700
	3x120+3 x 70/2+6FO	0694- 4 G 120+6FO#	60.9 - 64.9	4.710	281.6	7.200
	3x150+3 x 70/2+6FO	0694- 4 G 150+6FO#	64.8 - 68.8	8.750	323.2	9.000
Round Reeling Cable (N)TSKCGEWÖU FO 8.7 / 15 kV	3x25+2 x 25/2+6FO	0695- 4 G 25+6FO#	43.5 - 46.5	2.860	111.2	1.500
	3x35+3 x 25/2+6FO	0695- 4 G 35+6FO#	46.1 - 49.1	3.330	137.6	2.100
	3x50+3 x 25/2+6FO	0695- 4 G 50+6FO#	50.5 - 54.5	4.210	172.8	3.000
	3x70+3 x 35/2+6FO	0695- 4 G 70+6FO#	55.2 - 59.2	5.270	212.0	4.200
	3x95+3 x 50/2+6FO	0695- 4 G 95+6FO#	60.9 - 64.9	6.640	255.2	5.700
	3x120+3 x 70/2+6FO	0695- 4 G 120+6FO#	64.4 - 68.4	7.870	296.8	7.200
	3x150+3 x 70/2+6FO	0695- 4 G 150+6FO#	68.8 - 72.8	9.130	342.4	9.000
Round Reeling Cable (N)TSKCGEWÖU FO 12 / 20 kV	3x25+2 x 25/2+6FO	0696- 4 G 25+6FO#	46.6 - 49.6	3.150	111.2	1.500
	3x35+3 x 25/2+6FO	0696- 4 G 35+6FO#	50.1 - 54.1	3.810	137.6	2.100
	3x50+3 x 25/2+6FO	0696- 4 G 50+6FO#	54.1 - 58.1	4.610	172.8	3.000
	3x70+3 x 35/2+6FO	0696- 4 G 70+6FO#	58.2 - 62.2	5.640	212.0	4.200
	3x95+3 x 50/2+6FO	0696- 4 G 95+6FO#	64.0 - 68.0	7.050	255.2	5.700
	3x120+3 x 70/2+6FO	0696- 4 G 120+6FO#	68.0 - 72.0	8.360	296.8	7.200
	3x150+3 x 70/2+6FO	0696- 4 G 150+6FO#	73.3 - 77.3	9.840	342.4	9.000

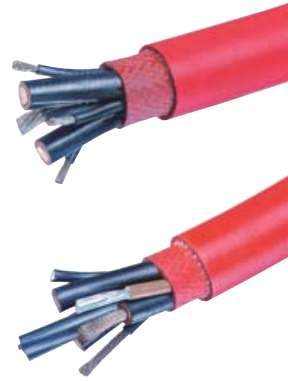
preferred series, short-term delivery

[†] The ampacity I_B is based on an ambient temperature of 30°C, a monospiral reel coil at 100% duty. Varying environmental conditions, method of operation and cabling arrangement can result in considerably different ampacities (s. technical exhibit).



Wampfler Cable WX-10

Technical data



		(N)TSCGEWÖU / (N)TSKCGEWÖU
Electrical parameters	rated voltage U _o /U	6.0 / 10.0 kV 8.7 / 15.0 kV 12.0 / 20.0 kV
	maximum permitted AC operating voltage U _o /U	7.0 / 12.0 kV 10.2 / 18.0 kV 14.0 / 24.0 kV
	maximum permitted DC operating voltage U _o /U	9.0 / 18.0 kV 13.0 / 26.0 kV 18.0 / 36.0 kV
	ampacity	accord. to table data, otherwise accord. to DIN VDE 0298 part 4
	AC test voltage	according to DIN VDE 0250 part 813
Thermal parameters	ambient temperature	flexing -35 °C to + 60 °C fixed -50 °C to + 80 °C
	maximum permitted operating temperature of the conductor	90 °C
	short-circuit temperature of the conductor	200 °C
Mechanical parameters	minimum radii for continuous flexing	6 x Ø static 12 x Ø on the reel 15 x Ø at diversion roller assemblies 20 x Ø at an S-track curve
	torsional stress	± 25 °/m
	tensile load-bearing capacity	20 N/mm ² during operation for flexing cables
Chemical parameters	LBS-free / silicone-free	yes
	combustion behaviour	flame retardant and self-extinguishing according to DIN VDE 0482 part 265-2-1, IEC 60332-1
	resistant to ozone	yes
	UV-resistant	yes
	oil-resistant	yes
	suitable for use in water	yes
Materials	insulation	base material ethylene-propylene-rubber (EPR), suitable for high-voltage (3GI3 minimum)
	field control	Inner conducting layer consists of semiconducting EPR, outer conducting layer of semiconducting NBR, to be able to be stripped cold (simple stripping method)
	sheathing system	<i>Inner sheath</i> consisting of a red EPR compound (5GM3 submersible) with polyester reinforced braid for protection against torsional forces. Braid is vulcanised between the inner and outer sheaths in a sandwich structure. <i>Middle and outer sheath</i> are abrasion and tear resistant PCP (5GM5) based compounds offering excellent resilience (colour: bright red)
Design features	conductor	finely stranded tin-plated electrolytic copper offering high flexibility (exceeding DIN VDE 0295 category 5)
	stranding	conductors in layers stranded with lay 7 x D (core diameter), earth conductor divided into three parts in the interstices (without optic fibres) or halved in the interstices (with optic fibres)
	conductor coding	black insulation, with white numbers
Standards		according to DIN VDE 0250 part 813
Design codes	(N)TSCGEWÖU	(N) adapted to a standard
	(N)TSKCGEWÖU	TS heavy duty cable
		K rubber cross in the core of the cable
		CGE conducting non-metallic covering surrounding the insulation outer conductor
		W resistant to atmospheric corrosion
		Ö oil-resistant outer sheath
	U outer sheath of low flammability according to DIN VDE 0472 part 804 (fire-proof)	

Technical exhibit

Calculation of current carrying capacity (of Wampfler Cables)

Typical ampacities I_B can be found in the tables as contained in this catalogue. The values are valid for the ambient temperature of 30°C stated in the foot notes, for standard cabling arrangements, and for continuous duty.

The **actual required ampacity** can significantly deviate if other application parameters exist. For such cases, please refer to **tables 1-4** (p.71 - S.73) for adjustment factors.

Step 1

All conversion factors for a specific application are multiplied:

$$F_{total} = f_1 \times f_2 \times f_3 \times f_4$$

Step 2

The **actual ampacity** I_T is calculated from the product of the total factor F_{total} with the typical ampacities I_B :

$$I_T = F_{total} \times I_B$$





Example Cable RXP-8 consisting of several conductors and suitable for use on reels, cross section 4G50 mm², at temperatures of up to 40 °C, wound in 2-layers on a cylindrical **motorized cable reel**, with an on-time of 35 % for 10 minutes.

	Affecting criteria	feature	Catalogue page	Factor
Step 1	ambient temperature = 40 °C	Cable RXP-8 maximum operating temperature for this cable = 80 °C	page 71, table 1	f₁ = 0.89
	type of cabling	2-layer coils (cylindrical reel)	page 71, table 2	f₂ = 0.76
	intermittent operation	on-time = 35 %, duration = 10 minutes cross section of 50 mm ²	page 72, table 3b	f₃ = 1.30
	cable configuration	one cable = single layer	page 73, table 4	f₄ = 1.00
			F_{total} = f₁ x f₂ x f₃ x f₄	= 0.897
Step 2	ampacity benchmark I_B	4G50 mm ²	page 60, data sheet	$I_B = 134.4 \text{ A}$
	total ampacity	$I_T = F_{total} \times I_B = 0.897 \times 134.4 \text{ A} = 118 \text{ A}$		

conversion factors f_1 for varying ambient temperatures

acc. to DIN VDE 0298 T4 08.03, table 17

table 1




ambient temperature	Conversion factors f_1 according to the max. permitted operating temperature of the conductor			
	60 °C	70 °C	80 °C	90 °C
 T3		F-1	TXP-4	FX-2 TXG-4
 FP-1		FP-1		
 C-5		C-5		CXP-6 CXG-6
 RXP-8			RXP-8	R-7 RXG-8 W-9 WX-10
10 °C	1.29	1.22	1.18	1.15
15 °C	1.22	1.17	1.14	1.12
20 °C	1.15	1.12	1.10	1.08
25 °C	1.08	1.06	1.05	1.04
30 °C	1.00	1.00	1.00	1.00
35 °C	0.91	0.94	0.95	0.96
40 °C	0.82	0.87	0.89	0.91
45 °C	0.71	0.79	0.84	0.87
50 °C	0.58	0.71	0.77	0.82
55 °C	0.41	0.61	0.71	0.76
60 °C		0.50	0.63	0.71
65 °C		0.35	0.55	0.65
70 °C			0.45	0.58
75 °C			0.32	0.50
80 °C				0.41
85 °C				0.29

The maximum permitted operating temperature of the conductor can be found in the respective data sheet.

Conversion factors f_2 for the type of cabling configuration/application

adapted to DIN VDE 0298 T4 08.03 table 27

table 2

type of cabling	 free in the air	 longitudinal at a support	 coiled on a reel				
cable	F-1 FP-1 FX-2 T-3 TXG-4 TXP-4	C-5 CXG-6 CXP-6	R-7 RXG-8 RXP-8 W-9 WX-10				
Conversion factors f_2	1.00	1.00	1.00	0.76	0.61	0.53	0.48
			1-layer or spiral coil	2-layers	3-layers	4-layers	5-layers

Attention: The typical ampacities I_B in the tables relating to cables for reeling applications have a factor of 0.80 applied (for monospiral reeling). Coils with several layers on the reel need to be multiplied by the **conversion factor f_2** .

Technical exhibit

Calculation of current carrying capacity (of Wampfler Cables)

Conversion factors f_3 for intermittent operation

adapted from DIN VDE 0298 T4 08.03 table 16

table 3a

duration of 5 minutes

On-time	100 %	85 %	80 %	60 %	35 %	20 %	8 %
cross section conductor mm ²	conversion factors f_3						
≤ 1.5	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2.5	1.00	1.00	1.00	1.00	1.02	1.06	1.20
4.0	1.00	1.00	1.00	1.00	1.04	1.12	1.45
6.0	1.00	1.00	1.00	1.00	1.07	1.20	1.70
10.0	1.00	1.01	1.02	1.06	1.19	1.43	2.06
16.0	1.00	1.02	1.03	1.09	1.28	1.57	2.32
25.0	1.00	1.03	1.05	1.13	1.35	1.69	2.55
35.0	1.00	1.05	1.06	1.16	1.41	1.78	2.70
50.0	1.00	1.05	1.07	1.18	1.45	1.85	2.84
70.0	1.00	1.06	1.08	1.20	1.50	1.92	2.96
95.0	1.00	1.06	1.08	1.21	1.53	1.98	3.07
120.0	1.00	1.06	1.09	1.23	1.55	2.01	3.13
150.0	1.00	1.07	1.09	1.23	1.57	2.04	3.18
185.0	1.00	1.07	1.10	1.24	1.59	2.07	3.23
240.0	1.00	1.07	1.10	1.24	1.61	2.10	3.28

Conversion factors f_3 for intermittent operation

adapted from DIN VDE 0298 T4 08.03 table 16

table 3b



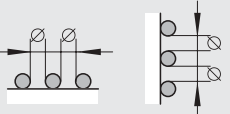

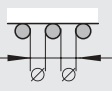
duration of 10 minutes

On-time	100 %	85 %	80 %	60 %	35 %	20 %	8 %
cross section conductor mm ²	conversion factors f_3						
≤ 1.5	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2.5	1.00	1.00	1.00	1.00	1.02	1.04	1.17
4.0	1.00	1.00	1.00	1.00	1.04	1.07	1.26
6.0	1.00	1.00	1.00	1.00	1.05	1.09	1.38
10.0	1.00	1.00	1.00	1.01	1.06	1.18	1.58
16.0	1.00	1.01	1.01	1.02	1.10	1.27	1.78
25.0	1.00	1.01	1.02	1.05	1.18	1.41	2.03
35.0	1.00	1.02	1.03	1.08	1.24	1.50	2.21
50.0	1.00	1.03	1.04	1.11	1.30	1.60	3.39
70.0	1.00	1.03	1.05	1.13	1.36	1.70	2.56
95.0	1.00	1.04	1.06	1.16	1.41	1.78	2.70
120.0	1.00	1.05	1.07	1.18	1.44	1.83	2.81
150.0	1.00	1.05	1.07	1.19	1.47	1.88	2.89
185.0	1.00	1.06	1.08	1.20	1.50	1.92	2.97
240.0	1.00	1.06	1.08	1.23	1.53	1.96	3.05

Conversion factors f_4 for cable configuration
 adapted from DIN VDE 0298 T4 08.03 table 21

table 4



cabling arrangement	Number of cables with several conductors or number of alternating or rotary circuits in 1-core cables (2 or 3 conducting cables)																
	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20		
Bundled directly on the wall, on the floor, in a conduit on or in the wall 	1.00	0.80	0.70	0.65	0.60	0.57	0.54	0.52	0.50	0.48	0.45	0.43	0.41	0.39	0.38		
1-layer on the wall or floor, laying on a surface 	1.00	0.85	0.79	0.75	0.73	0.72	0.72	0.71	0.70	0.70	0.70	0.70	0.70	0.70	0.70		
1-layer on the wall or floor, separated by a distance equal to or greater than the cable diameter 	1.00	0.94	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90		
1-layer beneath the ceiling, in contact with the surface 	0.95	0.81	0.72	0.68	0.66	0.64	0.63	0.62	0.61	0.61	0.61	0.61	0.61	0.61	0.61		
1-layer beneath the ceiling, separated by a distance equal to or greater than the cable diameter 	0.95	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85		



Customized Service

Expertise

The breadth and depth of Wampfler's service is geared to the requirements and desires of our customers. The service varies from consulting and project planning to long-term service contracts for complete systems for energy and data transfer.

Project planning

- selection of suitable cables considering the installation and environmental requirements
- calculation of our cables' ampacity for the respective application on request
- complete selection of cables compatible to the specific system for energy and data transfer: correct cable lengths, physical dimensions, bending radii and tensile loads



Pre-assembly

- assembly of cables packages onto cable-trolley systems; shipment on C-rails or I-beams for easier and faster final assembly
- assembly of cables onto spring and motorized cable reels; shipment of complete assembly with cables connected to the slip rings
- complete assembly of energy guiding chain with cables; strain-reliefs optionally pre-assembled, shipments on special plug&play transport and assembly racks or wooden transport drums

Final assembly

- complete installation as well as start-up operation carried out by trained and qualified personnel
- acceptance together with the customer
- on site instruction and training

Inspection & Servicing

- regular inspections of the facility coupled with expert service, increase the availability and reliability of every system



Your Applications - our Solutions

Wampfler Cables are but one component of the wide range of the Wampfler energy, data and media supply systems. The right solution for your application always ensues from the wholly specific application at hand. And many times, it is precisely the combination of several Wampfler systems that will render very convincing benefits. You can find consulting and engineering competence in our companies and subsidiaries worldwide - just like our solutions!



Festoon systems

It's hard to imagine Wampfler cable trolleys not being used in virtually every industrial application: They're reliable and robust in an enormous variety of dimensions and designs.



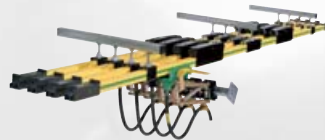
Cable reels

Motorized reels and spring cable reels by Wampfler hold their own wherever energy, data and media have to cover the most diverse distances within a short amount of time - in all directions, fast and safe.



Slip ring bodies

Whenever things are really moving "in circles", the proven slip ring bodies by Wampfler ensure the flawless transfer of energy and data. Here, everything revolves around flexibility and reliability!



Conductor rails

Whether they're enclosed conductor rails or expandable single-pole systems, the proven conductor rails by Wampfler reliably move people and material.



Energy guiding chains

The "Jack of all trades" when it comes to transferring energy, data and media. With their wide range, these energy guiding chains hold their own in industrial applications.



Inductive Power Transfer IPT®

The no-contact system for transferring energy and data. For all tasks that depend on high speeds and absolute resistance to wear.

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