

# MULTISPEED® 500-TPE UL/CSA high flexible, safety against high bending in drag chain systems, low torsion, halogen-free, meter marking



## Technical data

- Special drag chain cables for high mechanical stress in adapted to DIN VDE 0281 part 13 and E DIN VDE 0245 and UL-Std. 758 AWM Style 20841 and 21184
- **Temperature range**  
flexing -30 °C to +80 °C  
fixed installation -50 °C to +80 °C
- **Nominal voltage**  
VDE U<sub>0</sub>/U 300/500 V  
UL 600 V
- **Test voltage** 3000 V
- **Insulation resistance**  
min. 100 MΩm x km
- **Minimum bending radius**  
flexing 5x cable ø  
fixed installation 3x cable ø
- **Radiation resistance**  
up to 100x10<sup>6</sup> cJ/kg (up to 100 Mrad)

## Cable structure

- Tinned copper, fine wire conductors, Unilay with short pitch length
- Special TPE core insulation
- Black cores with continuous white numbering
- Green-yellow earth core (3 cores and above)
- Stranding:  
<7 cores: cores stranded in a layer with optimal lay-length around a filler as per construction  
≥7 cores: cores stranded with optimal lay-length to bunch-construction with low torsion strength, optimal selected short lay-length around a filler
- Special-TPE-O outer sheath, extruded as filler with pressure
- Sheath colour ocean blue (RAL 5020)
- with meter marking, change-over in 2011
- **TPE:** The selected tinned copper wire conductor permits the installation in aggressive environments as well as hydrogen sulfide, ammonia and sulfur dioxide

## Properties

- Microbe-resistance - TPE
- Low adhesion
- High property of alternating bending strength
- High resistant to mechanical strain
- Long life durability due to low friction-resistance
- High tensile strength, abrasion- and impact resistance at low temperature
- Extremely high continuous bending loads
- Tear resistance
- High stability
- Oil resistance
- Better chemical resistance
- UV and ozone resistance
- Higher economical solution
- Reduced ø, results low weight of moving materials
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

## Note

- G = with green-yellow earth core;  
x = without green-yellow earth core (OZ).
- AWG sizes are approximate equivalent values. The actual cross-section is in mm<sup>2</sup>.
- Cleanroom qualification tested with analog type. Please note "cleanroom qualified" when ordering.
- **screened analogue type:**  
**MULTISPEED® 500-C-TPE UL/CSA,**  
see page N 98

## Application

The selected materials and lay-up technique permit these high flexible cables for permanent application in drag chains for long distances, high and slow speed of movements. These cables are installed in dry, moist and wet rooms and in open air with free movement without tensile stress or forced movements. These robust and abrasion resistant special control cables are installed there, where the problems appear for the application in permanent stresses e.g. in energy drag chains, industry robotics, production lines, automatic control systems and permanent movable machinery parts for multi-shift operation. These cables are installed everywhere, where high requirements for the flexibility, abrasion, oxygen and chemical resistance are necessary. For applications which go beyond standard solutions (for example for composting appliances or high shelf conveyors with extremely high processing speeds etc.) we recommend for our especially developed enquiry sheet for energy guiding systems.

Before installation in cable trays please read the instructions. Further technical details see selection table for drag chain cables, see lead text. **CE** = The product is conformed with the EC Low-Voltage Directive 2006/95/EG.

Part no.	No. cores x cross-sec. mm <sup>2</sup>	AWG-No.	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
24450	2 x 0,5	20	4,7	9,6	42,0
24451	3 G 0,5	20	5,0	14,4	49,0
24452	4 G 0,5	20	5,4	19,0	63,0
24453	5 G 0,5	20	5,8	24,0	70,0
24454	7 G 0,5	20	8,9	33,6	90,0
24455	12 G 0,5	20	9,8	58,0	134,0
24456	18 G 0,5	20	11,9	86,0	209,0
24457	25 G 0,5	20	13,9	120,0	270,0

Part no.	No. cores x cross-sec. mm <sup>2</sup>	AWG-No.	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
24458	2 x 0,75	19	5,0	14,4	47,0
24459	3 G 0,75	19	5,2	21,6	55,0
24460	4 G 0,75	19	6,1	29,0	70,0
24461	5 G 0,75	19	6,6	36,0	74,0
24462	7 G 0,75	19	10,5	50,0	95,0
24463	12 G 0,75	19	11,4	86,0	174,0
24464	18 G 0,75	19	14,2	130,0	261,0
24465	25 G 0,75	19	16,3	180,0	290,0
24466	36 G 0,75	19	19,5	260,0	419,0
24467	42 G 0,75	19	21,3	302,0	614,0

Continuation ▶

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Part no.	No. cores x cross-sec. mm <sup>2</sup>	AWG-No.	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
24468	2 x 1	18	5,2	19,2	50,0
24469	3 G 1	18	5,9	29,0	60,0
24470	4 G 1	18	6,4	38,0	74,0
24471	5 G 1	18	7,0	48,0	86,0
24472	7 G 1	18	11,2	67,0	114,0
24473	12 G 1	18	12,3	115,0	210,0
24474	18 G 1	18	15,1	173,0	291,0
24475	25 G 1	18	17,6	240,0	380,0
24476	3 G 1,5	16	6,7	43,0	84,0
24477	4 G 1,5	16	7,3	58,0	108,0
24478	5 G 1,5	16	8,0	72,0	126,0

Part no.	No. cores x cross-sec. mm <sup>2</sup>	AWG-No.	Outer Ø approx. mm	Cop. weight kg / km	Weight approx. kg / km
24479	7 G 1,5	16	13,2	101,0	169,0
24480	12 G 1,5	16	14,4	173,0	299,0
24481	18 G 1,5	16	17,7	259,0	460,0
24482	25 G 1,5	16	19,8	360,0	640,0
24483	4 G 2,5	14	8,9	96,0	179,0
24484	5 G 2,5	14	9,8	120,0	230,0
24485	7 G 2,5	14	16,1	168,0	294,0
24486	12 G 2,5	14	17,8	288,0	510,0
24487	18 G 2,5	14	21,8	432,0	722,0
24488	25 G 2,5	14	24,4	600,0	950,0

Dimensions and specifications may be changed without prior notice. (RN05)

## Marking

Marking rings  
Cable marker  
Indian pen



You can find marking in our catalogue Cable Accessories.  
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