

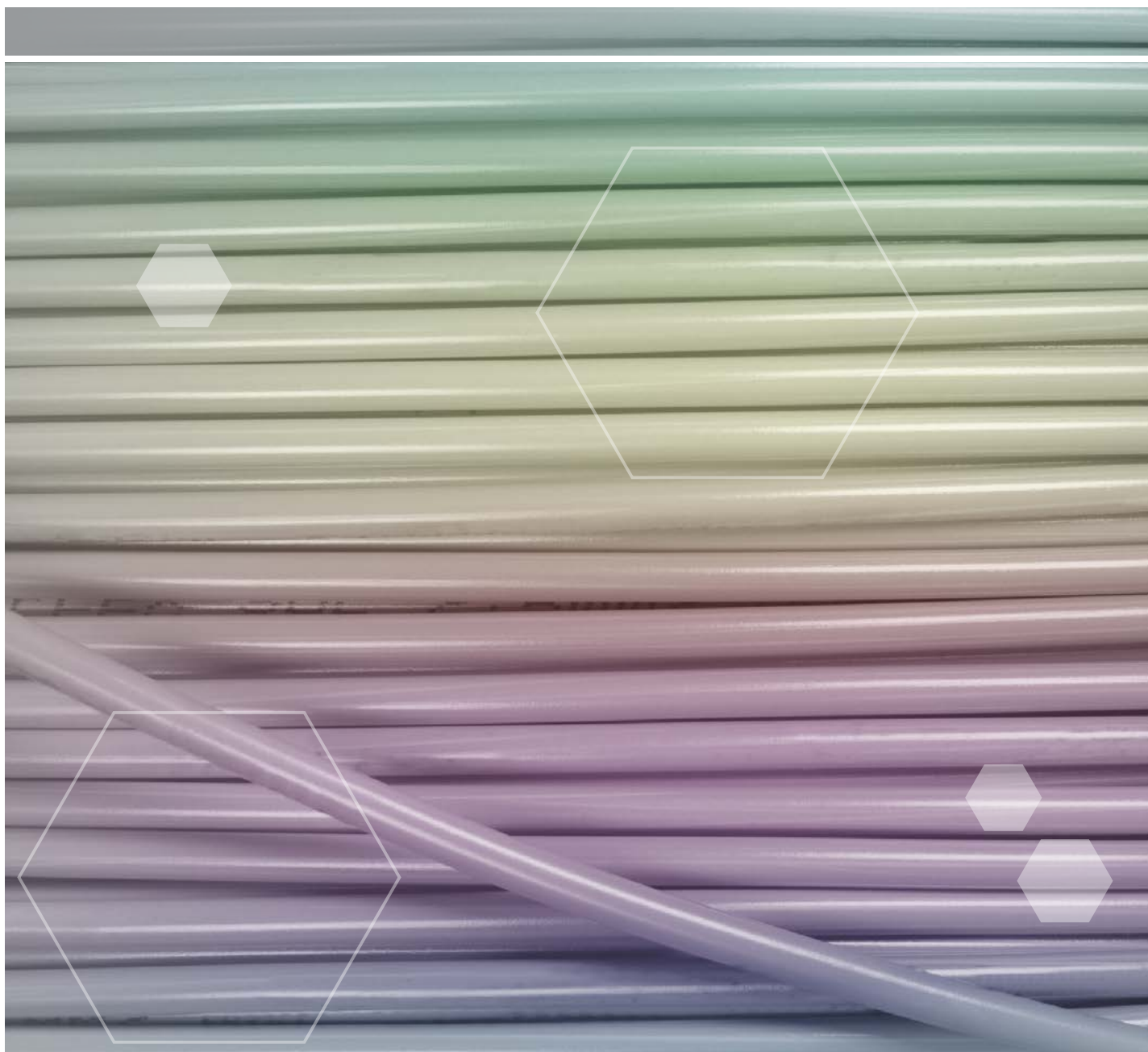
Multi-Contact

MC

*STÄUBLI*

# Cables and multistrand wires Main catalog

Cableline | Test & Measurement



## STÄUBLI ELECTRICAL CONNECTORS

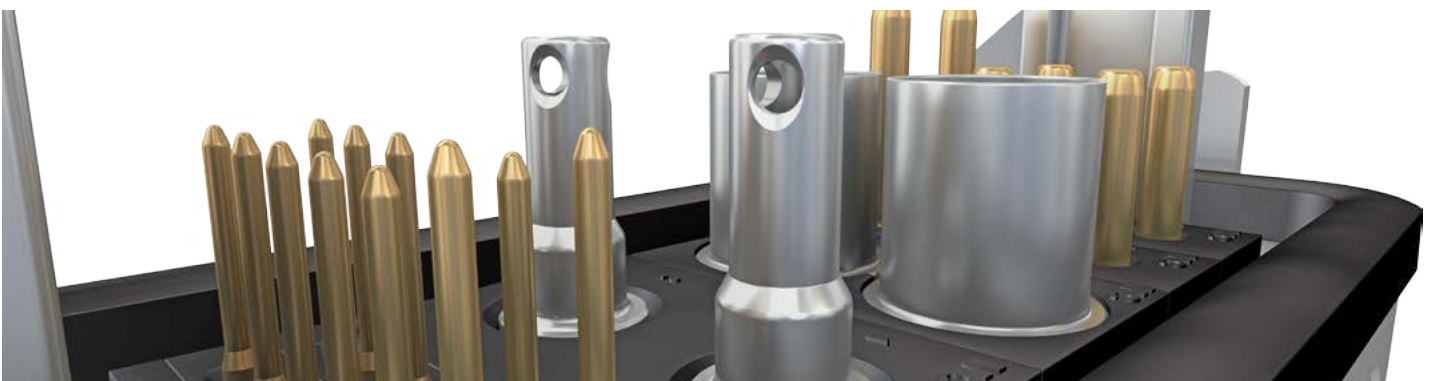
# Long-term solutions – Expert connections



**Stäubli Electrical Connectors is a leading international manufacturer of high-quality electrical connector systems. We are part of the Stäubli Group which offers mechatronics solutions for electrical connectors, liquid and gas couplings, robots and textile machinery.**

Stäubli develops, produces, sells and maintains products for markets with high productivity standards. As recognized specialists, our focus is always on solutions and customers. Many new developments got their start here and have begun to make their way around the world.

Businesses and customers count on our commitment and our active support when dealing with unusual problems. With us, you are entering into a long-term partnership built on reliability, dynamism, and exceptional quality in both products and services.



# Applications and advantages



**Stäubli Electrical Connectors looks back on years of experience in the production of multi-stranded wires with PVC, silicone and TPE insulating materials.**

Our multi-stranded wires are based on super-fine, bright-soft electrolytic copper strands. Depending on the cross section, these may consist of hundreds or even

thousands of individual wires, the majority with a diameter between 0.05 mm and 0.10 mm, stranded in a short twist.

The resulting high number of windings in combination with highly elastic insulating materials creates finished leads with an exceptional flexibility. Through the selection and combination of the finest raw materials, as well as the constant modernization

of our production facilities, the range of multi-stranded wires has been extended over the years and adapted to the latest technical requirements and standards.

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UNLIMITED POSSIBILITIES FOR CONTACT SOLUTIONS

MULTILAM Technology



**MULTILAM** are specially formed and resilient contact elements. All Stäubli Electrical Connectors products benefit from the unique and outstanding performance of the **MULTILAM Technology**.

Thanks to their constant spring pressure, MULTILAM louvers ensure continuous contact with the contact surface, resulting in a constantly low contact resistance.

MULTILAM Technology allows to find solutions for connectors within the severest constraints and in certain products for up to 1 million mating cycles.

This makes the MULTILAM Technology the best choice for applications with demanding requirements:

- Reliable and longlife operation due to constantly high performance
- Safe operation under highest environmental demands on temperature, vibration and shock
- Suitable for data and signal contacts as well as high-current connectors
- Automated solutions with a high number of mating cycles



# Ordering information regarding our multistrand wires

We sell our multi-strand wires on reels of various sizes, relative to the types of wire (see page 7).

For our standard order quantity, 100 metres, please order our 100 reel (order number 6X.XXXX-100\*). For longer wires, please order our 999 reel (order number 6X.XXXX-999\*). When ordering, please add

the order number of the desired wire to the respective order number and replace the asterisk with the two-digit color code.

Delivery of wires below the standard order quantity is only possible on request.

## General information

### Colour code

For those items available in various colours, replace the asterisk "\*" with the appropriate colour code.

20	green-yellow	26	violet
21	black	27	brown
22	red	28	grey
23	blue	29	white
24	yellow	33	transparent
25	green	34	natural

### Copyright

The use of this catalogue for any other purpose, in whatever form, without our prior written consent is not permitted.

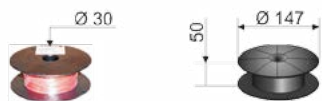
### RoHS ready

Directive 2011/65/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

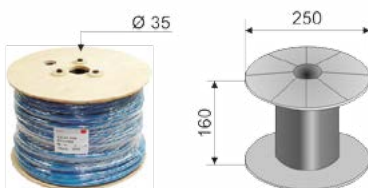
### Changes / Provisos

All data, illustrations and drawings in the catalogue have been carefully checked. They are in accordance with our experience to date, but no responsibility can be accepted for errors. We also reserve the right to make modifications for design and safety reasons. When designing equipment incorporating our components, it is therefore advisable not to rely solely on the data in the catalogue but to consult us to make sure this information is up to date. We shall be pleased to advise you.

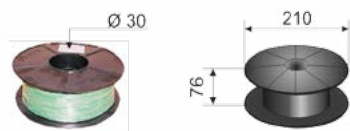
# Package types



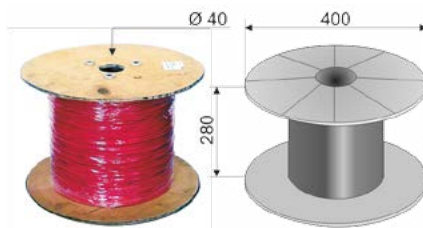
**Reel A**  
Plastic reel for 100-metre lengths of wires with small outside diameter.  
Empty weight: 0.13 kg



**Reel C**  
Wooden reel for 50 or 100 metres for wires with larger outside diameter and for greater lengths of wires with small and medium outside diameter.  
Empty weight: 0.75 kg



**Reel B**  
Plastic reel for 100-metre lengths of wires with medium outside diameter and for greater lengths of wires with smaller outside diameter.  
Empty weight: 0.2 kg



**Reel D**  
Wooden reel specially designed for extremely long wire lengths and for wires with large outside diameter.  
Empty weight: 2 kg

# PVC Insulated Multistrand Wires

## Insulating Material PVC

### General characteristics

Good electrical properties with medium to good flexibility and good age resistance.

### Resistance to environmental influences

Medium to good UV resistance depending on colour.

### Typical application

Universal use for test leads and wiring with medium mechanical stress and a good cost-benefit ratio.

### Used for the following wire types

FlexiVolt..., FlexiStrom..., FLEXI-...

Technical specifications	
Temperature range (permanent, fully flexible)	-10 °C ... +70 °C
Maximum elongation	280 %
Tear strength	15 N/mm <sup>2</sup>
Hardness	70 Shore A



## FlexiVolt-E

Highly flexible basic insulated stranded wire.

### Typical Application

Internal wiring of mobile components under moderate mechanical stress. Highly flexible connecting leads for low-voltage applications in the laboratory field.



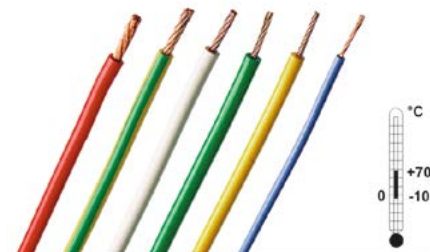
Order No.	Type	Nominal cross section	Strand design	Weight of cable	Conductor diameter	Thickness insulation wall	Outer diameter	Rated voltage	Test voltage	Rated current	Certification marks	*Colours
	PVC	mm <sup>2</sup>	n x Ø mm	kg/km	mm	mm	mm	V	V AC	A		
60.7001-□*	FLEXI-E 0,10	0,10	26 x 0,07	1,8	0,40	0,30	1,0	150	2000	2		21 22 23 24 25 29
22.0060-□*	HK 0,127	0,127	65 x 0,05	2,0	0,48	0,26	1,0	50	600	3		21 22 23 24 25 26 28 29
60.7002-□*	FLEXI-E 0,15	0,15	39 x 0,07	3,5	0,50	0,50	1,5	500	2200	4		21 22 23 25
60.7041-□*	FLEXI-E/HK 0,17	0,17	84 x 0,05	3,2	0,52	0,40	1,4	50	600	4		21 22 23
60.7013-□*	FLEXI-E/HK 0,25	0,25	129 x 0,05	3,9	0,70	0,35	1,4	300	2000	6		21 22 23 24 25 29
60.7003-□*	FLEXI-E 0,25	0,25	66 x 0,07	4,8	0,65	0,50	1,7	500	2200	6		21 22 23 24 25 29
60.7005-□*	FLEXI-E/HK 0,50	0,50	256 x 0,05	8,3	1,0	0,55	2,1	500	2200	10		21 22 23 24 25 27 28 29
60.7004-□*	FLEXI-E 0,50	0,50	129 x 0,07	8,3	0,90	0,60	2,1	500	2200	10		21 22 23 24 25 29
60.7006-□*	FLEXI-E 0,75	0,75	196 x 0,07	11	1,25	0,55	2,3	500	2200	15		21 22 23 24
60.7009-□*	FLEXI-E/HK 1,0	1,0	511 x 0,05	14	1,5	0,60	2,7	750	3500	19		20 21 22 23 24 29
60.7008-□*	FLEXI-E 1,0	1,0	259 x 0,07	15	1,4	0,65	2,7	750	3500	19		20 21 22 23 24
60.7010-□*	FLEXI-E 1,5	1,5	392 x 0,07	20	1,7	0,65	3,0	750	3500	24		20 21 22 23
60.7012-□*	FLEXI-E 2,5	2,5	651 x 0,07	32	2,4	0,60	3,6	750	3500	32		20 21 22 23 24 25 29

## FlexiVolt-1V

Highly flexible stranded wire with reinforced insulation.

### Typical Application

Manufacture of test leads and external wiring of movable elements.



Order No.	Type	Nominal cross section	Strand design	Weight of cable	Conductor diameter	Thickness insulation wall	Outer diameter	Rated voltage	Test voltage	Rated current	Certification marks	*Colours
	PVC	mm <sup>2</sup>	n x Ø mm	kg/km	mm	mm	mm	V	V AC	A		
60.7085-□*	FLEXI-1V 0,50	0,50	129 x 0,07	9,2	0,90	0,70	2,3	1500	8000	10	UL <sup>1)</sup>	21 22 23 24 29
60.7120-□*	FLEXI-1V 0,50/2,7	0,50	129 x 0,07	11	0,90	0,90	2,7	1500	8000	10	UL <sup>1)</sup>	21 22 23
60.7086-□*	FLEXI-1V 0,75	0,75	196 x 0,07	18	1,25	1,1	3,5	1500	8000	15	UL <sup>1)</sup>	20 21 22 23 29
60.7087-□*	FLEXI-1V 1,0	1,0	259 x 0,07	23	1,4	1,25	3,9	1500	8000	19	UL <sup>1)</sup>	20 21 22 23 29
60.7088-□*	FLEXI-1V 1,5	1,5	392 x 0,07	27	1,7	1,1	3,9	1500	8000	24	UL <sup>1)</sup>	20 21 22 23
60.7089-□*	FLEXI-1V 2,0	2,0	525 x 0,07	31	2,0	0,95	3,9	1500	8000	30	UL <sup>1)</sup>	21 22 23
60.7125-□*	FLEXI-1V 2,5	2,5	651 x 0,07	34	2,4	1,0	3,9	1500	8000	32	UL <sup>1)</sup>	20 21 22 23

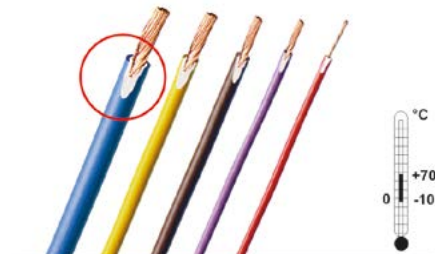
<sup>1)</sup> UL recognized: File E120880, AWM  
Use: Test Probe Lead up to +60 °C

## FlexiVolt-2V

Highly flexible stranded wire with reinforced, double-layer insulation for the highest safety (inside natural or white, outside coloured). Damage to the outer layer of insulation can be more easily recognised due to the different colour of the underlying layer.

### Typical Application

Manufacture of test leads and external wiring of movable elements.



Order No.	Type	Nominal cross section	Strand design	Weight of cable	Conductor diameter	Thickness insulation wall	Outer diameter	Rated voltage	Test voltage	Rated current	Certification marks	*Colours
	PVC	mm <sup>2</sup>	n x Ø mm	kg/km	mm	mm	mm	V	V AC	A		
60.7026-□*	FLEXI-2V 0,25	0,25	66 x 0,07	6,0	0,65	0,65	2,0	1500	8000	6		21 22 23
60.7027-□*	FLEXI-2V 0,50	0,50	129 x 0,07	9,2	0,90	0,70	2,3	1500	8000	10	UL <sup>1)</sup>	21 22 23
60.7121-□*	FLEXI-2V 0,50S	0,50	129 x 0,07	11	0,90	0,90	2,7	1500	8000	10	UL <sup>1)</sup>	21 22 23
60.7941-□*	FLEXI-2V/HK 0,75-D	0,75	196 x 0,07	21	1,25	1,3	3,9	1500	8000	15	UL <sup>1)</sup>	20 21 22 23 24 25 26 27 28 29
60.7028-□*	FLEXI-2V 0,75	0,75	196 x 0,07	18	1,25	1,1	3,5	1500	8000	15	UL <sup>1)</sup>	21 22 23 24 25 26 27 28 29
60.7919-□*	FLEXI-2V 0,75S	0,75	196 x 0,07	16	0,90	0,95	3,2	1500	8000	15	UL <sup>1)</sup>	21 22 23
60.7036-□*	FLEXI-2V/HK 1,0-D	1,0	511 x 0,05	23	1,5	1,2	3,9	1500	8000	19	UL <sup>1)</sup>	21 22 23
60.7030-□*	FLEXI-2V 1,0	1,0	259 x 0,07	23	1,4	1,25	3,9	1500	8000	19	UL <sup>1)</sup>	21 22 23 24 25 26 27 29
60.7031-□*	FLEXI-2V 1,5	1,5	392 x 0,07	27	1,7	1,1	3,9	1500	8000	24	UL <sup>1)</sup>	21 22 23
60.7029-□*	FLEXI-2V 2,0	2,0	525 x 0,07	31	2,0	0,95	3,9	1500	8000	30	UL <sup>1)</sup>	21 22 23
60.7033-□*	FLEXI-2V/HK 2,5-D	2,5	651 x 0,07	34	2,4	0,75	3,9	1500	8000	32	UL <sup>1)</sup>	20 21 22 23 24 25 26 27 28 29
60.7032-□*	FLEXI-2V 2,5	2,5	651 x 0,07	38	2,4	1,0	4,4	1500	8000	32	UL <sup>1)</sup>	21 22 23 24 25 26
60.7034-□*	FLEXI-2V 4,0	4,0	1036 x 0,07	64	3,0	1,5	6,0	1500	8000	42	UL <sup>1)</sup>	21 22 23
60.7035-□*	FLEXI-2V 6,0	6,0	1548 x 0,07	95	3,8	1,6	7,0	1500	8000	54	UL <sup>1)</sup>	21 22 23

<sup>1)</sup> UL recognized: File E120880, AWM  
Use: Test Probe Lead up to +60 °C

## FlexiStrom

Highly flexible stranded wire with reinforced insulation.

### Typical Application

Current feeds and earth/ground wires in machine, plant and accumulator construction.  
Safety test leads carrying high currents.



Order No.	Type	Nominal cross section	Strand design	Weight of cable	Conductor diameter	Thickness insulation wall	Outer diameter	Rated voltage	Test voltage	Rated current	Certification marks	*Colours
	PVC	mm <sup>2</sup>	n x Ø mm	kg/km	mm	mm	mm	V	V AC	A		
60.7014-□*	FLEXI-S 4,0	4,0	1036 x 0,07	52	3,0	0,90	4,8	1500	8000	42	UL <sup>1)</sup>	20 21 22 23 33
60.7015-□*	FLEXI-S 6,0	6,0	1548 x 0,07	80	3,8	1,05	5,9	1500	8000	54	UL <sup>1)</sup>	20 21 22 23
60.7017-□*	FLEXI-S 10	10	2556 x 0,07	120	4,8	1,1	7,0	1500	8000	73	UL <sup>1)</sup>	20 21 22 23
60.7018-□*	FLEXI-S 16	16	4116 x 0,07	202	6,1	1,2	8,5	1500	8000	98	UL <sup>1)</sup>	20 21 22 23
60.7020-□*	FLEXI-S 25	25	6384 x 0,07	280	7,0	1,4	9,8	1500	8000	129	UL <sup>1)</sup>	21 22 23



<sup>1)</sup> UL recognized: File E120880  
Use: Test Probe Lead up to +60 °C  
**Not applicable for transparent insulation!**

# TPE Insulated Multistrand Wires

## Insulating Material TPE

### General characteristics

Excellent electrical properties (e.g. high insulation resistance), high tensile strength, high flexibility, nonabrasive and relatively lightweight (low density). The TPE is chlorine-free and thus environment-friendly.

### Resistance to environmental influences

UV-, ozone- and weather-resistant.

### Typical application

Used, for example, in test leads with a medium thermal load whilst retaining its flexibility in the cold.

### Used for the following wire types

FlexiPlast..., PLAST-...

Technical specifications	
Temperature range (permanent)	-30 °C ... +90 °C (PLAST- ...)
Relative permittivity	~ 2,1 – 2,7
Loss factor (frequency-dependent)	~ 0,003 – 0,008
Maximum elongation	487 %
Tensile strength	7,2 N/mm <sup>2</sup>
Hardness	66 Shore A

## FlexiPlast-E FlexiPlast-1V

Highly flexible basic insulated stranded wire.

### Typical Application

Internal wiring of mobile components under moderate mechanical stress. Highly flexible connecting leads for low-voltage applications in the laboratory field.

TPE-insulated leads can be used in a wider range of temperatures than comparable PVC-insulated leads. TPE has a substantially higher insulation resistance than PVC and is also free from chlorine, thus making a valuable contribution to the protection of the environment.



Order No.	Type	Nominal cross section	Strand design	Weight of cable	Conductor diameter	Thickness insulation wall	Outer diameter	Rated voltage	Test voltage	Rated current	Certification marks	*Colours
	TPE	mm <sup>2</sup>	n x Ø mm	kg/km	mm	mm	mm	V	V AC	A		
60.7170-□*	PLAST-E 0,15	0,15	39 x 0,07	2,9	0,50	0,50	1,5	500	2200	4		21 22 23 24
60.7175-□*	PLAST-E 0,25	0,25	66 x 0,07	4,1	0,65	0,50	1,7	500	2200	6		21 22 23
60.7180-□*	PLAST-E 0,50	0,50	129 x 0,07	7,1	0,90	0,60	2,1	500	2200	10		21 22 23 25 27 29
60.7185-□*	PLAST-E 0,75	0,75	196 x 0,07	10	1,25	0,55	2,3	500	2200	15		21 22 23
60.7190-□*	PLAST-E 1,0	1,0	259 x 0,07	13	1,4	0,65	2,7	750	3500	19		20 21 22 23 24 29
60.7200-□*	PLAST-E 2,5	2,5	651 x 0,07	29	2,4	0,60	3,6	750	3500	32		21 22 23 25 29
60.7230-□*	PLAST-1V 2,5	2,5	651 x 0,07	31	2,4	0,75	3,9	1000	6000	32		21 22 23
60.7763-□*	PLAST-1V 0,50 SN	0,50	129 x 0,07	8,6	0,90	0,70	2,3	1000	6000	10		21 22
60.7768-□*	PLAST-1V 2,5 SN	2,5	651 x 0,07	33	2,4	0,75	3,9	1000	6000	32		21 22 23 24 25 26

<sup>1)</sup> UL recognized: File E120880  
Use: Special Test Lead up to +105 °C.

## FlexiPlast-2V

Highly flexible stranded wire with reinforced, double-layer insulation for the highest safety (inside natural, outside coloured). Damage to the outer layer of insulation can be more easily recognised due to the different colour of the underlying layer.

### Typical Application

Hand-held test leads for maximum safety requirements and high thermal stress.



Order No.	Type	Nominal cross section	Strand design	Weight of cable	Conductor diameter	Thickness insulation wall	Outer diameter	Rated voltage	Test voltage	Rated current	Certification marks	*Colours
	TPE	mm <sup>2</sup>	n x Ø mm	kg/km	mm	mm	mm	V	V AC	A		
60.7240-□*	PLAST-2V 0,25	0,25	66 x 0,07	4,9	0,65	0,65	2,0	1000	6000	6		21 22 23
60.7245-□*	PLAST-2V 0,50	0,50	129 x 0,07	7,8	0,90	0,70	2,3	1000	6000	10		21 22 23
60.7250-□*	PLAST-2V 0,75	0,75	196 x 0,07	15	1,25	1,1	3,5	1000	6000	15		21 22 23
60.7255-□*	PLAST-2V 1,0	1,0	259 x 0,07	19	1,4	1,25	3,9	1000	6000	19		21 22 23
60.7265-□*	PLAST-2V 2,0	2,0	525 x 0,07	27	2,0	0,95	3,9	1000	6000	30		21 22 23
60.7270-□*	PLAST-2V 2,5	2,5	651 x 0,07	34	2,4	1,0	4,4	1000	6000	32		21 22 23

# Silicone Insulated Multistrand Wires

## Insulating Material Silicone

### General characteristics

The outstanding properties of the silicone insulation include excellent flexibility and the ability to withstand brief contact with a soldering iron.

Good age resistance, high impact value, maximum elongation and tear strength, halogen-free and thus environment-friendly.

### Resistance to environmental influences

Very good weather and radiation resistance. Good chemical stability.

### Typical application

Used, e.g. for making up maximum flexibility test leads, wiring very flexible parts. An important safety feature is the silicone ash

produced after burning which continues to insulate the wires in the event of a fire. This can mean the continued function of electrical installations in industrial plants.

### Used for the following wire types

SiliVolt..., SiliStrom, SILI-... (SN)

Technical specifications	
Temperature range	
- permanent (permanent steam-resistance)	-50 °C ... +150 °C
- several hours	... +250 °C
- temporary (eg. contact with soldering iron)	... +300 °C
Relative permittivity	~ 2,7 – 2,8
Loss factor (frequency-dependent)	~ 0,003
Dielectric strength	18 – 20 kV/mm
Maximum elongation	500 %
Tear strength (very high resistance to tearing)	8,3 N/mm <sup>2</sup>
Hardness	60 Shore A

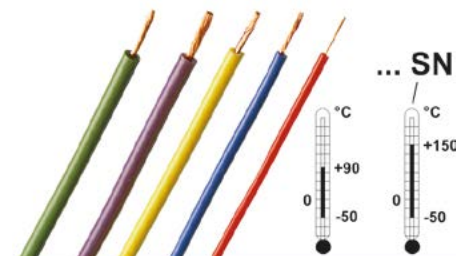


## SiliVolt-E

Super flexible basic insulated stranded wire. Types ... SN with tinned wire strands for continuous use at temperatures up to 150 °C.

### Typical Application

Internal wiring of very mobile components and assemblies under high thermal stress. Super flexible connecting leads for low-voltage applications in the laboratory field.



Order No.	Type	Nominal cross section	Strand design	Weight of cable	Conductor diameter	Thickness insulation wall	Outer diameter	Rated voltage	Test voltage	Rated current	Certification marks	*Colours
	SIL	mm <sup>2</sup>	n x Ø mm	kg/km	mm	mm	mm	V	V AC	A		
61.7550-□*	SILI-E 0,15	0,15	39 x 0,07	2,1	0,50	0,25	1,0	150	2000	6		21 22 23 24 25 27 29
61.7551-□*	SILI-E 0,25	0,25	66 x 0,07	4,5	0,65	0,50	1,7	300	2000	9		21 22 23 24 25 27 29
61.7552-□*	SILI-E 0,50	0,50	129 x 0,07	8,6	0,90	0,70	2,3	300	2000	10	RL <sup>1)</sup>	21 22 23 24 25 27 29
61.7532-□*	SILI-E 0,50 SN	0,50	129 x 0,07	8,6	0,90	0,70	2,3	300	2000	10	RL <sup>2)</sup>	21 22 23
61.7553-□*	SILI-E 0,75	0,75	196 x 0,07	12	1,25	0,70	2,7	600	2500	15	RL <sup>1)</sup>	20 21 22 23 27 29
61.7533-□*	SILI-E 0,75 SN	0,75	196 x 0,07	12	1,25	0,70	2,7	600	2500	15	RL <sup>2)</sup>	21 22 23
61.7554-□*	SILI-E 1,0	1,0	259 x 0,07	16	1,4	0,80	3,0	600	2500	19	RL <sup>1)</sup>	20 21 22 23 24 25 29
61.7534-□*	SILI-E 1,0 SN	1,0	259 x 0,07	16	1,4	0,80	3,0	600	2500	19	RL <sup>2)</sup>	21 22 23
61.7555-□*	SILI-E 1,5	1,5	392 x 0,07	22	1,7	0,85	3,4	600	2500	24	RL <sup>1)</sup>	20 21 22 23 26 29
61.7556-□*	SILI-E 2,5	2,5	651 x 0,07	33	2,4	0,75	3,9	600	2500	32	RL <sup>1)</sup>	20 21 22 23 24 25 27
61.7537-□*	SILI-E 2,5 SN	2,5	651 x 0,07	33	2,4	0,75	3,9	600	2500	32	RL <sup>2)</sup>	21 22 23

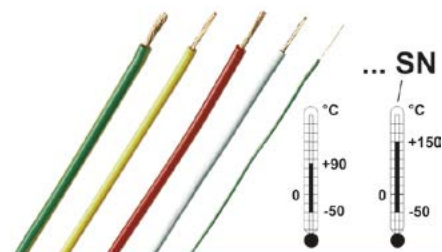
<sup>1)</sup> UL recognized: File E120880  
Use: Test Probe Lead up to +60 °C  
<sup>2)</sup> UL recognized: File E120880  
Use: Special Test Lead up to +105° C.

## SiliVolt-1V

Super flexible stranded wire with reinforced insulation. Types ... SN with tinned wire strands for continuous use at temperatures up to 150 °C.

### Typical Application

Hand-held test leads for high thermal stress.



Order No.	Type	Nominal cross section	Strand design	Weight of cable	Conductor diameter	Thickness insulation wall	Outer diameter	Rated voltage	Test voltage	Rated current	Certification marks	*Colours
	SIL	mm <sup>2</sup>	n x Ø mm	kg/km	mm	mm	mm	V	V AC	A		
61.7603-□*	SILI-1V 0,15	0,15	39 x 0,07	3,2	0,50	0,50	1,5	300	3000	6		21 22 23 24
61.7604-□*	SILI-1V 0,25	0,25	129 x 0,05	5,5	0,70	0,65	2,0	300	3000	9		21 22 23
61.7605-□*	SILI-1V 0,50	0,50	256 x 0,05	10	1,0	0,85	2,7	1500	8000	12	UL <sup>1)</sup>	21 22 23 24 25 29
61.7642-□*	SILI-1V 0,50 SN	0,50	129 x 0,07	10	0,90	0,85	2,7	1500	8000	12	UL <sup>2)</sup>	21 22 23
61.7122-□*	SILI-1V 0,75/3,2	0,75	385 x 0,05	15	1,25	0,95	3,2	1500	8000	15	UL <sup>1)</sup>	21 22 23
61.7606-□*	SILI-1V 0,75	0,75	385 x 0,05	17	1,25	1,1	3,5	1500	8000	15	UL <sup>1)</sup>	20 21 22 23 24 25 26 27 28 29
61.7643-□*	SILI-1V 0,75 SN	0,75	196 x 0,07	17	1,25	1,1	3,5	1500	8000	15	UL <sup>2)</sup>	21 22 23
61.7607-□*	SILI-1V 1,0	1,0	511 x 0,05	21	1,5	1,2	3,9	1500	8000	19	UL <sup>1)</sup>	20 21 22 23 24 25 26 27 28 29
61.7644-□*	SILI-1V 1,0 SN	1,0	259 x 0,07	21	1,4	1,2	3,9	1500	8000	19	UL <sup>2)</sup>	21 22 23
61.7608-□*	SILI-1V 1,5	1,5	770 x 0,05	25	1,8	1,05	3,9	1500	8000	24	UL <sup>1)</sup>	21 22 23
61.7609-□*	SILI-1V 2,0	2,0	525 x 0,07	29	2,0	0,95	3,9	1500	8000	30	UL <sup>1)</sup>	21 22 23
61.7646-□*	SILI-1V 2,0 SN	2,0	525 x 0,07	29	2,0	0,95	3,9	1500	8000	30	UL <sup>2)</sup>	21 22 23
61.7610-□*	SILI-1V 2,5	2,5	651 x 0,07	38	2,4	1,1	4,6	1500	8000	32	UL <sup>1)</sup>	21 22 23 24 25 26 27 28

<sup>1)</sup> UL recognized: File E120880, AWM  
Use: Test Probe Lead up to +60 °C

<sup>2)</sup> UL recognized: File E120880, AWM  
Use: Special Test Lead up to +105° C.

## SiliVolt-2V

Super flexible stranded wire with reinforced, double-layer insulation for the highest safety (inside natural, outside coloured). Damage to the outer layer of insulation can be more easily recognised due to the different colour of the underlying layer. Types ... SN

with tinned wire strands for continuous use at temperatures up to 150 °C.

### Typical Application

Hand-held test leads for maximum safety requirements and high thermal stress.



Order No.	Type	Nominal cross section	Strand design	Weight of cable	Conductor diameter	Thickness insulation wall	Outer diameter	Rated voltage	Test voltage	Rated current	Certification marks	*Colours
	SIL	mm <sup>2</sup>	n x Ø mm	kg/km	mm	mm	mm	V	V AC	A		
61.7662-□*	SILI-2V 0,50	0,50	256 x 0,05	10	1,0	0,85	2,7	1500	8000	12	RV <sup>1)</sup>	21 22 23
61.7663-□*	SILI-2V 0,75	0,75	385 x 0,05	17	1,25	1,1	3,5	1500	8000	15	RV <sup>1)</sup>	21 22 23 24 25 26 27 28 29
61.7664-□*	SILI-2V 1,0	1,0	511 x 0,05	21	1,5	1,2	3,9	1500	8000	19	RV <sup>1)</sup>	21 22 23 24 25 26 27 28
61.7666-□*	SILI-2V 2,0	2,0	525 x 0,07	29	2,0	0,95	3,9	1500	8000	30	RV <sup>1)</sup>	21 22 23
61.7667-□*	SILI-2V 2,5	2,5	651 x 0,07	38	2,4	1,1	4,6	1500	8000	32	RV <sup>1)</sup>	21 22 23 27 28



<sup>1)</sup> UL recognized: File E120880  
Use: Test Probe Lead up to +60 °C

## SiliStrom

Highly flexible stranded wire with reinforced insulation. Super-fine Cu strand.

### Typical Application

Current feeds and earth/ground wires in machine, plant and accumulator construction.  
Safety test leads carrying high currents.



Order No.	Type	Nominal cross section	Strand design	Weight of cable	Conductor diameter	Thickness insulation wall	Outer diameter	Rated voltage	Test voltage	Rated current	Certification marks	*Colours
	SIL	mm <sup>2</sup>	n x Ø mm	kg/km	mm	mm	mm	V	V AC	A		
61.7611-□*	SILI-S 4,0	4,0	1036 x 0,07	55	3,0	1,2	5,4	1500	8000	42		
61.7612-□*	SILI-S 6,0	6,0	1548 x 0,07	80	3,8	1,2	6,2	1500	8000	54		
61.7613-□*	SILI-S 10	10	2556 x 0,07	145	4,8	2,1	9,0	1500	8000	75		
61.7614-□*	SILI-S 16	16	4116 x 0,07	230	6,1	2,2	10,5	1500	8000	100		
61.7615-□*	SILI-S 25	25	6384 x 0,07	310	7,0	2,4	11,8	1500	8000	130		
61.7616-□*	SILI-S 35	35	9324 x 0,07	440	8,5	2,4	13,3	1500	8000	160		
61.7617-□*	SILI-S 50	50	13024 x 0,07	570	10,5	2,2	14,9	1500	8000	200	<sup>2)</sup>	
61.7618-□*	SILI-S 70	70	8967 x 0,10	760	12	2,2	16,4	1500	8000	245	<sup>2)</sup>	
61.7619-□*	SILI-S 95	95	12103 x 0,10	1080	15	2,0	19	1500	8000	290	<sup>2)</sup>	



<sup>1)</sup> UL recognized: File E120880  
Use: Test Probe Lead up to +60 °C.

<sup>2)</sup> UL approval on inquiry

# High Voltage Wires

## HK18-H FlexiVolt-HV FlexiPlast-HV

Highly flexible, reinforced insulated stranded wires. Super-fine Cu strand, bright-soft, tightly twisted.

- Type HK18-H: tin-plated
- FlexiVolt-HV (type FLEXI-HV 0,75): with double-layer insulation (inside natural, outside coloured).

- FlexiPlast-HV (type PLAST-HV 0,5 SN): tin-plated strands, chlorine-free, double-layer insulation (inside natural, outside coloured).

### Typical Application

Flexible high voltage wiring, hand-held test leads for high voltage tests.



Order No.	Type	Nominal cross section	Insulating material	Strand design	Weight of cable	Conductor diameter	Thickness insulation wall	Outer diameter	Rated voltage	Test voltage	Rated current	Certification marks	*Colours
		mm <sup>2</sup>		n x Ø mm	kg/km	mm	mm	mm	V	V AC	A		
22.0110-□*	HK18-H	0,82	PVC	65 x 0,127	20	1,2	1,2	3,7	5000	12000	16		21 22
60.7067-□*	FLEXI-HV 0,75	0,75	PVC	196 x 0,07	33	1,25	1,9	5,1	10000	20000	15		22
60.7460-□*	PLAST-HV 0,5 SN	0,50	TPE	129 x 0,07	26	0,90	2,0	5,0	5000 <sup>1)</sup>	11000	10		21 22 23

<sup>1)</sup> As hand-held test lead

<sup>2)</sup> UL recognized: AWM 1855  
Use: Test Probe Lead up to +80 °C.

<sup>3)</sup> UL recognized: File E120880  
Use: Special Test Lead up to +105 °C.

## SiliVolt-HV

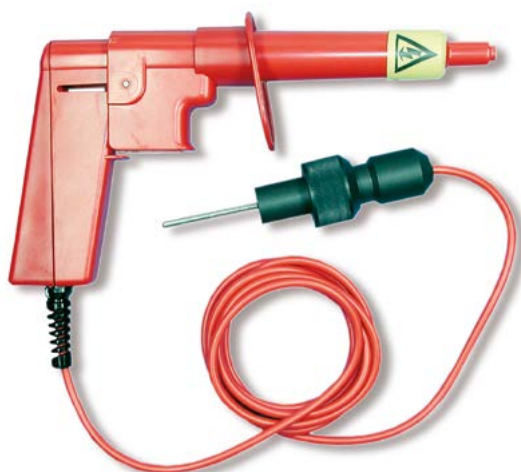
Super flexible, reinforced insulated stranded wire. Super-fine Cu strand, bright-soft, tightly twisted. Silicone insulation, halogen-free and therefore environment-friendly.

### Typical Application

Flexible high voltage wiring, hand-held test leads for high voltage tests.



Order No.	Type	Nominal cross section	Strand design	Weight of cable	Conductor diameter	Thickness insulation wall	Outer diameter	Rated voltage	Test voltage	Rated current	Certification marks	*Colours
	SIL	mm <sup>2</sup>	n x Ø mm	kg/km	mm	mm	mm	V	V AC	A		
61.7630-□*	SILI-HV 0,5	0,50	129 x 0,07	20	0,90	1,65	4,2	2500 <sup>1)</sup> / 5000 <sup>2)</sup>	11000	10		22
61.7631-□*	SILI-HV 0,75	0,75	196 x 0,07	29	1,25	1,9	5,1	3800 <sup>1)</sup> / 7500 <sup>2)</sup>	15000	15		21 22
61.7632-□*	SILI-HV 1,0	1,0	259 x 0,07	35	1,4	2,05	5,5	5000 <sup>1)</sup> / 10000 <sup>2)</sup>	20000	19		21 22
61.7634-□*	SILI-HV 2,5	2,5	651 x 0,07	58	2,4	2,1	6,6	6300 <sup>1)</sup> / 12500 <sup>2)</sup>	25000	32		21 22
61.7639-□*	SILI-HV 2,5/9	2,5	651 x 0,07	93	2,4	3,3	9,0	30000 <sup>2)</sup>	60000	32		22
61.7636-□*	SILI-HV 6,0	6,0	1548 x 0,07	120	3,8	2,6	9,0	20000 <sup>2)</sup>	38000	54		22



<sup>1)</sup> As hand-held test lead

<sup>2)</sup> With wiring

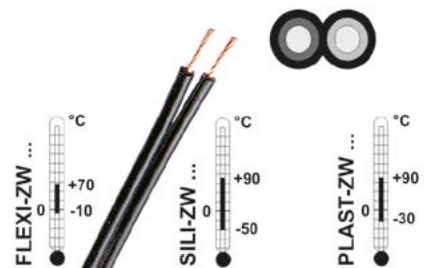
# Twin Wires

## FLEXI-ZW SILI-ZW PLAST-ZW

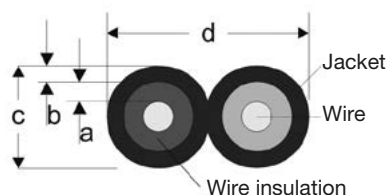
Twin wires with single insulated wires in a black jacket. Super-fine Cu strand, bright-soft, tightly twisted. Insulations in PVC, silicone or TPE.

### Typical Application

Highly flexible, two-pole test leads.



Order No.	Type	Nominal cross section	Insulating material	Strand design	Weight of cable	Conductor diameter	Thickness insulation wall	Outer dimensions	Nominal voltage	Test voltage	Nominal current	Certification marks	*Colours
	PVC / SIL / TPE	mm <sup>2</sup>		n x Ø mm	kg/km	mm	a + b mm	c x d mm	V	V AC	A		
60.7453-□*	FLEXI-ZW 0,75	2x 0,75	PVC	196 x 0,07	35	1,25	0,45 + 0,6	3,4 x 6,9	1000	8000	12		21
60.7456-□*	FLEXI-ZW 2,0	2x 2,0	PVC	525 x 0,07	62	2,0	0,45 + 0,5	3,9 x 7,9	1000	8000	24		21
61.7729-□*	SILI-ZW 0,25	2x 0,25	SIL	129 x 0,05	11	0,70	0,25 + 0,4	2,0x 4,1	300	3000	6		21
61.7730-□*	SILI-ZW 0,5	2x 0,5	SIL	129 x 0,07	29	0,90	0,65 + 0,6	3,4 x 6,9	1000	8000	10		21
61.7731-□*	SILI-ZW 0,75	2x 0,75	SIL	196 x 0,07	32	1,25	0,45 + 0,6	3,4 x 6,9	1000	8000	12		21
62.7473-□*	PLAST-ZW 0,75	2x 0,75	TPE	196 x 0,07	32	1,25	0,45 + 0,6	3,4 x 6,9	1000	8000	12		21
62.7476-□*	PLAST-ZW 2,0	2x 2,0	TPE	525 x 0,07	58	2,0	0,45 + 0,5	3,9 x 7,9	1000	8000	24		21



<sup>1)</sup> UL recognized: File E120880  
Use: Test Probe Lead up to +60 °C

<sup>2)</sup> UL recognized: File E120880  
Use: Test Probe Lead up to +60 °C

# Special Wires for Potential Equalization

## FLEXI-S/POAG-HK

Highly flexible, reinforced insulated stranded wire. Green-yellow insulation with helical green stripe. Super-fine strand, bright-soft, tightly twisted.

### Typical Application

Potential equalization, e.g. in the medical engineering field.



Order No.	Type	Nominal cross section	Strand design	Weight of cable	Conductor diameter	Thickness insulation wall	Outer diameter	Rated voltage	Test voltage	Rated current	Certification marks	* Colours
	PVC	mm <sup>2</sup>	n x Ø mm	kg/km	mm	mm	mm	V	V AC	A		
15.2010-□20	FLEXI-S/POAG-HK4	4,0	1036 x 0,07	52	3,0	0,90	4,8	600	2500	42		20 <sup>1)</sup>
15.2015-□20	FLEXI-S/POAG-HK6	6,0	1548 x 0,07	80	3,8	1,05	5,9	600	2500	54		20 <sup>1)</sup>



**TÜV** TÜV Rheinland LGA Products GmbH

**Connectors for potential equalization – TÜV tested:  
See main catalogue “Medical Technology”**

<sup>1)</sup> Yellow with three helical green stripes, each 2 mm wide with 4-5 windings per meter.



# Shielded Wires

## RG58-PVC Silishield

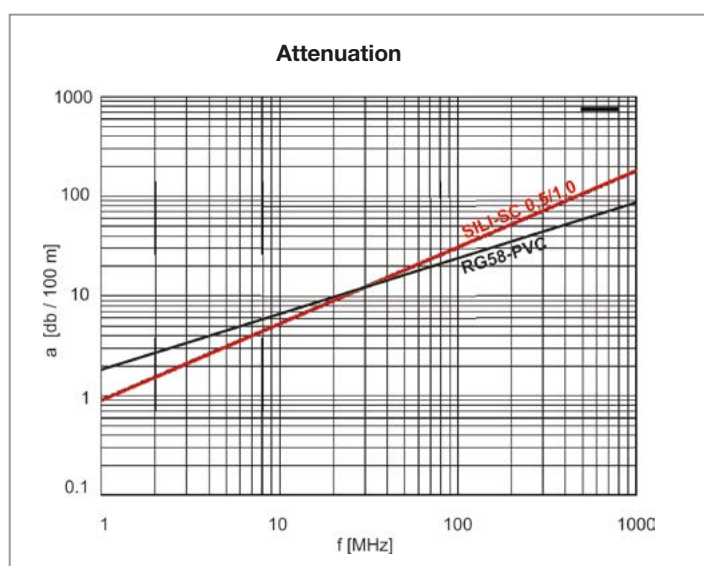
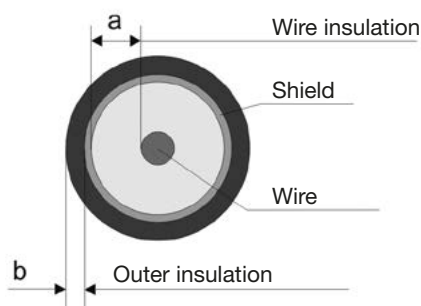
Shielded, highly flexible coaxial cable. Insulations in PVC or silicone in various colours.

- Type RG58-PVC: Standard cable RG58. Inner core and shield mesh in tinned copper. Core insulation PE, outer insulation soft PVC.

- Silishield (Type SILI-SC 0,5/1,0): Ultra-flexible coaxial cable. Inner core stranded Cu, shield Cu mesh. Core insulation and outer insulation silicone with high temperature resistance.



Order No.	Type	Lead Insulation	Nom. cross section inner wire	Design inner wire	Diameter inner wire	Design shield	Weight of cable	Thickness insulation wall	Outer diameter	Rated voltage	Earth / Shield	Wire / Shield	Impedance	Certification marks	*Colours
			mm <sup>2</sup>	n x Ø mm	mm	n x Ø mm	kg/km	a mm b mm	mm	V	V AC	V AC	Ω		
60.7500-□*	RG58-PVC	PVC	0,50	19 x 0,18	0,90	16 x 5 x 0,18	37	1,0 0,60	5,0	1000	6000	3200	50		21 22 23
61.7580-□*	SILI-SC 0,5/1,0	SIL	0,50	256 x 0,05	0,90	16 x 8 x 0,10	29	1,0 0,75	4,9	1000	6000	3200	~45		21 22 28



# Technical Information

## Smallest Permissible Bend Radii

VDE 0298, part 3, stipulates minimum permissible bend radii of leads. In the following table, the minimum bend radii are shown

for fixed and mobile flexible leads at various rated voltages and outside diameters.

Rated voltage	≤ 600V				> 600V
	Outer diameter				
Flexible wire	≤ 8 mm	> 8 ... 12 mm	> 12 ... 20 mm	> 20 mm	
Fixed	3 d	3 d	4 d	4 d	6 d
Mobile	3 d	4 d	5 d	5 d	10 d

d = Outside diameter of lead

## Why tinned multistrand copper wires?

If bright-soft copper stranded wires are exposed to temperatures > 90°C, this can result in discoloration of the copper and an impairment of its soldering properties. Reactions between the copper and the insulating material may also occur which have a

deleterious effect on the mechanical properties of the flexible leads.

To avoid problems of this kind, we recommend using our tinned multistrand wires. These are suitable for continuous use at temperatures up to +150 °C with silicone insulation.

## Resistance of conductor at 20°C for class 5 Cu conductors

The following table shows the conductor resistance for fine-stranded copper wires with

bare individual strands at 20°C in relation to the nominal cross-section according to DIN VDE 0295 (IEC 60228).

Nominal cross section	Conductor resistance
mm <sup>2</sup>	Ω / km
0,50	39,0
0,75	26,0
1,0	19,5
1,50	13,3
2,5	7,98
4,0	4,95
6,0	3,30
10	1,91
16	1,21
25	0,780

Nominal cross section	Conductor resistance
mm <sup>2</sup>	Ω / km
35	0,554
50	0,386
70	0,272
95	0,206
120	0,161
150	0,129
185	0,106
240	0,0801
300	0,0641

## UL Approval

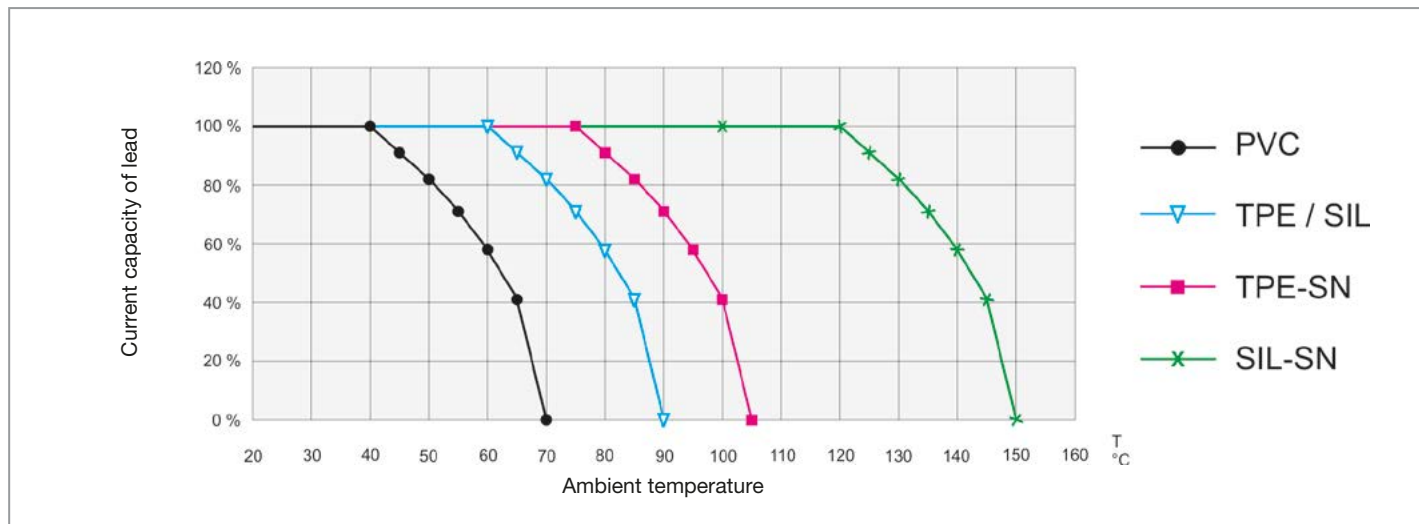
A number of our multistrand wires have a UL approval. This means that these articles

are approved as "Test Probe Wire". UL-approved wires are indicated in the catalogue with the .

**Temperature-dependence of current-carrying capacity**

VDE 0298, part 4, gives recommendations for the current-carrying capacity of leads. The following curves show the correlation between the current-carrying capacity of flexible

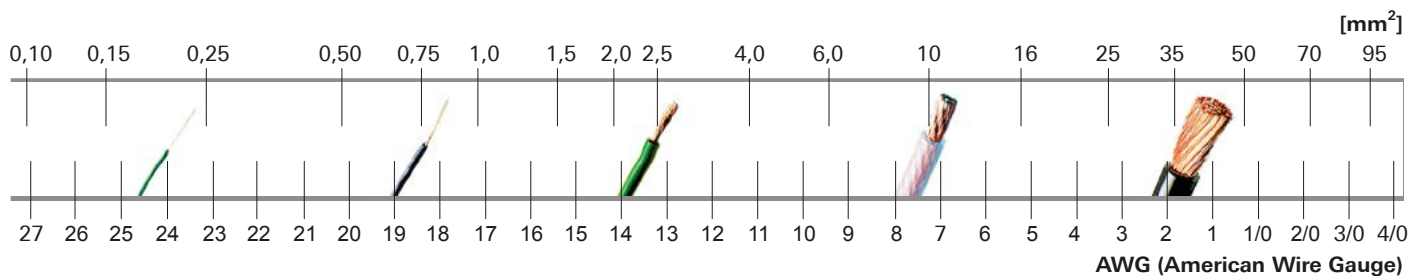
leads and the ambient temperature. 100 % corresponds to the rated current stated in the catalogue. The graph shows the curves for soft stranded copper wires with PVC, TPE and silicone insulation, and for tinned stranded copper wires (TPE-SN and SIL-SN).



**Table mm<sup>2</sup> / AWG**

In the catalogue, the nominal cross-section of our multistrand wires is stated in sq. mm.

The following chart gives an indication of their comparability with corresponding AWG values.<sup>1)</sup>



<sup>1)</sup> The chart is based on values for stranded wires given in UL 758 "UL Standard for Safety for Appliance Wiring Material".

**Technical Modifications and Information Given in the Catalogue**

We have a policy of continuous improvement and reserve the right to make technical modifications to any product in accordance with any safety and technical developments. We accept no responsibility for the accuracy of the information given in the catalogue.

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# Notes

# Notes



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