

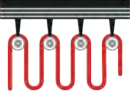
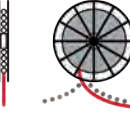

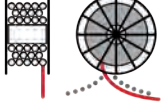
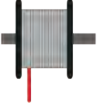


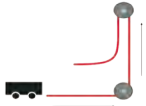

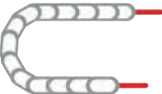
- 138 **Quick select chart**
- 139 **Crane cable installation instructions**
- 140 **Lift cable installation instructions**

Lift & crane cable

- 141 **ÖLFLEX® CRANE NSHTÖU**
Reelable cable for low to medium mechanical stress
- 142 **ÖLFLEX® CRANE**
Highly flexible weather-proof rubber cable with supporting element
- 143 **ÖLFLEX® CRANE PUR**
Reelable PUR cable for low, medium & high mechanical stress
- 144 **ÖLFLEX® CRANE 2S**
PVC cable with external steel supporting elements
- 145 **ÖLFLEX® FLAT**
Flat festoon cable with PVC jacket; UL/CSA approval
- 146 **ÖLFLEX® CRANE F**
Flat festoon weather-proof rubber cable
- 147 **ÖLFLEX® LIFT F**
Flat festoon cable with PVC jacket

Quick select chart

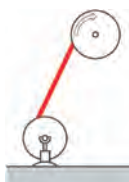
- ✓ Main application
- ✓ Possible application

Application	Diagram	page						
		141	142	143	144	145	146	147
		ÖLFLEX® CRANE NSHTÖU	ÖLFLEX® CRANE	ÖLFLEX® CRANE PUR	ÖLFLEX® CRANE 2S	ÖLFLEX® FLAT	ÖLFLEX® CRANE F	ÖLFLEX® LIFT F
Cable trailer systems			✓			✓	✓	✓
Reeling, light stress (monospiral configuration: stacked)		✓		✓				
Reeling, moderate stress (multispiral configuration: single layer)		✓		✓				
Reeling, heavy stress (multispiral configuration: multilayer)				✓				
Vertical reeling				✓				
Reel storage (horizontal)				✓				
Reel storage (vertical)				✓				
Re-routing under tensile load				✓				
Push-button control unit				✓	✓			
Drag chain		✓	✓	✓		✓	✓	✓
Lift						✓	✓	✓

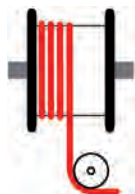
Crane cable installation instructions

- Whenever possible, the delivery reel should be transported to the installation site. Avoid rolling the reel. If the reel cannot be mounted directly onto the equipment, the cable should be unreeled with the aid of idle pulleys and a drag rope.
- During unreeling, the cable must be taken only from revolving reels and only from the top while ensuring that tension is maintained and the cable is neither deflected nor dragged over sharp edges.
- Before installation, the cable must be laid out and stretched. If this is not possible, it is essential to keep the distance between the delivery reel and the equipment reels as long as possible. Avoid S-bends or other deflections when the cable is laid in position.

INCORRECT:
reels too close



INCORRECT:
cable is deflected



- The cable must be spooled onto the equipment reel without twisting. It is equally important to avoid twisting when making connections.
- It is essential to use properly sized clamps (length 4 x cable diameter) for fastening the cable ends in order to prevent crushing. The length of cable left unreeled before the fastening point must be at least 40 x diameter, but it is advisable to use a compensating pulley here also.
- At least two coils must remain on the equipment reel when the cable has run out.

Table 1

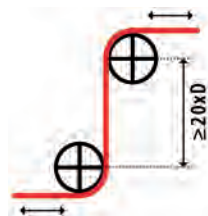
Conductor cross-section (mm ²)	I _{max}
1.5	18A
2.5	26A
4	34A
6	44A
10	61A
16	82A
25	108A
35	135A

Table 2

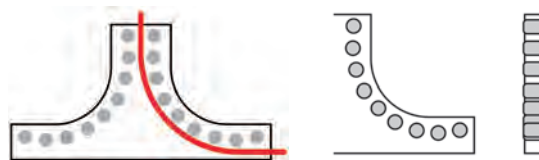
Ambient temperature (°C)	f ₁
≤ 30	1.00
31 - 35	0.91
36 - 40	0.82
41 - 45	0.71
46 - 50	0.58
51 - 55	0.41

Table 3

Number of layers	f ₂
1	0.80
2	0.68
3	0.58
4	0.60
5	0.48
6	0.46



- The maximum permissible reeling speed is 2 m/s with a maximum acceleration of 0.4 m/s².
- The stationary continuous tensile stress should not exceed 15 N/mm² of the total copper cross section and the dynamic peak tensile stress may not exceed 25 N/mm². For cables with large outer diameters, use guide pulleys to minimize friction when changing direction, as shown below:



- The actual current rating in continuous operation is limited by:
 - The conductor cross section (see Table 1)
 - The ambient temperature (see Table 2)
 - The number of layers spooled on the reel (see Table 3)
 The maximum permissible current on the installed cable is obtained from the following formula: $I = I_{max} \times f_1 \times f_2$

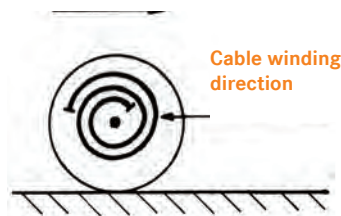
Lift cable installation instructions

A: General information

1. The cables must be free of twists when being installed, and this should be done at temperatures of at least +5 °C. See VDE 0298-4: Table 1, on previous page.
2. The inner bending radius of the cable must not be less than 20 x cable outer diameter.
3. The maximum suspension length depends on the supporting element in the cable in each case (see product catalog page), and may only be exceeded by max. 10% of the specified value.
4. The delivery drum must be transported to (or as close as possible to) the installation location. If possible, avoid rolling the drum. If the drum must be rolled, only move the drum in the specified direction (see fig. 1).

fig. 1

Direction for rolling drum



B: Suspending the cables

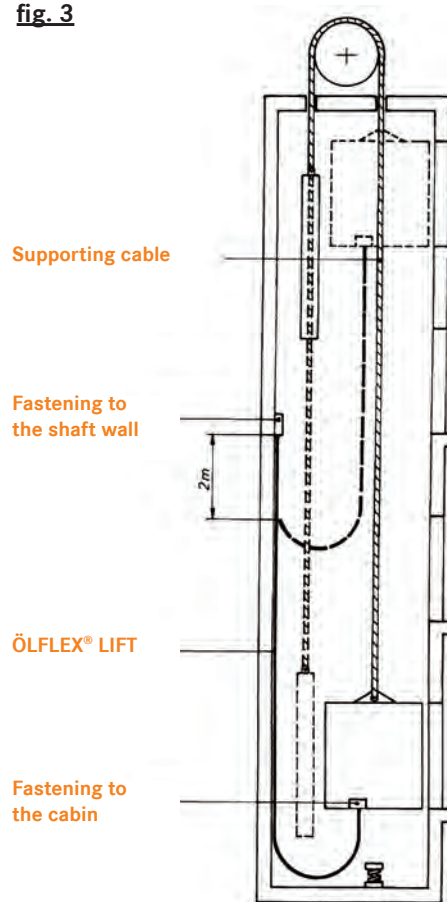
1. When pulling the cables into the shaft, unreel them tangentially from the drum. Unreeling the cable axially from the drum will result in the cable twisting and will affect the core stranding, which may in turn cause malfunctions (see fig. 2).
2. To ensure the cable is fitted without twists, allow the cable to briefly hang freely in the shaft. The best way to do this is to pull the control cable into the lift shaft from the bottom of the shaft.
3. The gap between the lift cabin and bottom of the shaft must be sufficiently large, and must be used in full for the cable loop height (see fig. 3).

fig. 2



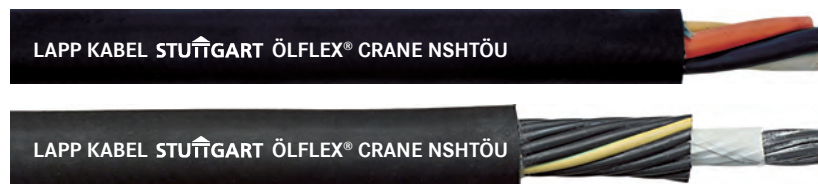
5. It is essential that sufficiently large clamps are used to secure the cables (e.g., LAPP cable wedge clamps type EKK or DKK). For suspension lengths greater than 50 m, the supporting element must also be damped separately.
6. The fastening point on the shaft wall must be at least 2 m above the center of the travel distance (see fig. 3).
7. If the cable does not run smoothly, i.e. if the cable leaves the max. gradient line during operation, rotate the control cable slightly at one of the fastening points until the cable runs smoothly again.
8. If several control cables need to be installed for the lift unit, we recommend suspending the individual cables such that the height of the various loops differs by approx. 15 cm (stepped suspension).

fig. 3



ÖLFLEX® CRANE NSHTÖU

Reelable cable for low to medium mechanical stress



ÖLFLEX® CRANE NSHTÖU pendant and reel cable is constructed with a reinforced neoprene jacket and is designed for use wherever cable operation requires frequent reeling and unreeling on pulleys, drums, or rollers under tensile load.

Recommended applications

Hoists; transport and conveyor systems; dry or damp interiors, outdoors, or in industrial water; reeling/unreeling during operation without fixing

Cable attributes		page 648	
OIL	OR-01	FLAME	FR-01
MOTION	FL-02	MECH.	MP-02

Construction

Conductors: stranded tinned copper

Insulation: rubber

Jacket: reinforced rubber with integrated support braid; black

Application advantage

- Rugged jacket is resistant to mechanical abuse and chemicals
- Weather-resistant black polychloroprene jacket
- Designed for crucial bending radius
- Reinforced jacket for added strength

Approvals



Complete the installation

SKINTOP® strain relief
page 492

EPIC® connectors
page 284

Technical data

Minimum bend radius:	see installation instructions, page 139	Conductor stranding:	Class 5 fine wire
Temperature range:	-25°C to +80°C	Color code:	- up to 5c: VDE 0293-308: chart 6, page 681 - 6c & higher: black with white numbers, plus green/yellow ground
Nominal voltage:	600/1000V	Approvals:	<VDE> NSHTÖU cable type certification acc. to VDE 0250-814 CE & RoHS
Test voltage:	4000V		

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS PG thread
16 AWG (1.5 mm²)						
0043006	3	0.551	14.0	30	128	52015740
00430053	4	0.583	14.8	39	148	52015750
00430073	5	0.618	15.7	54	175	52015750
0043008	7	0.717	18.2	77	255	52015760
0043009	12	0.941	23.9	132	484	52015760
0043010	18	0.941	23.9	182	517	52015760
0043011	24	1.067	27.1	263	672	52015765
0043012	30	1.189	30.2	290	887	52015765
14 AWG (2.5 mm²)						
0043013	3	0.610	15.5	50	168	52015750
00430303	4	0.665	16.9	67	222	52015750
00430143	5	0.709	18.0	83	262	52015760
0043015	7	0.811	20.6	121	343	52015760
0043016	12	1.079	27.4	207	652	52015765
0043017	18	1.079	27.4	303	739	52015765
0043018	24	1.244	31.6	414	974	52015833
0043019	30	1.429	36.3	518	1310	52015766
12 AWG (4 mm²)						
00430203	4	0.724	18.4	106	296	52015760
00430333	5	0.772	19.6	148	349	52015760

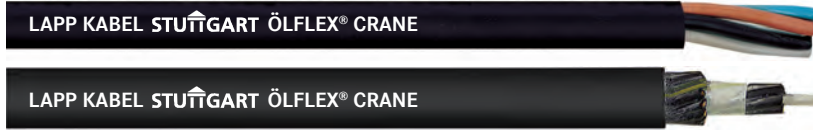
Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS PG thread
10 AWG (6 mm²)						
00430213	4	0.780	19.8	162	356	52015760
00430343	5	0.854	21.7	213	464	52015760
8 AWG (10 mm²)						
00430223	4	0.921	23.4	271	558	52015760
00430003	5	0.992	25.2	343	672	52015765
6 AWG (16 mm²)						
00430233	4	1.004	25.5	431	786	52015765
00430323	5	1.083	27.5	516	941	52015765
4 AWG (25 mm²)						
00430243	4	1.283	32.6	675	1230	52015833
2 AWG (35 mm²)						
00430253	4	1.370	34.8	948	1532	52015833
1 AWG (50 mm²)						
00430263	4	1.598	40.6	1351	2164	52015767
2/0 AWG (70 mm²)						
00430283	4	1.764	44.8	1806	2822	53112070*
3/0 AWG (95 mm²)						
00430293	4	2.016	51.2	2451	3716	53112080*

* SKINTOP® MS with metric thread

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section. If not otherwise specified, all values relating to the product are nominal values. Photographs are not to scale and are not true representations of the products in question.

ÖLFLEX® CRANE

Highly flexible weather-proof rubber cable with supporting element



ÖLFLEX® CRANE is a small-diameter pendant control cable. Thanks to its extremely durable and flexible jacket, this cable can be used on machinery and equipment that is permanently exposed to harsh outdoor environments. The internal supporting element provides strain relief.

Recommended applications

Machinery & equipment that is exposed to harsh weather conditions; conveying & hoisting equipment; construction machinery; shipyard machinery; in industrial or sea water; cables up to 24c can be used in cable tracks

Cable attributes		page 648	
OIL	OR-01	FLAME	FR-02
MOTION	FL-02	MECH.	MP-02

Complete the installation	
SKINTOP® strain relief page 492	EPIC® connectors page 284

Construction

Conductors: stranded bare copper wire

Insulation: rubber; conductors twisted in layers around central supporting element

Jacket: rubber; black

Application advantage

- Weather-resistant for harsh environmental conditions
- Very flexible, due to extra-fine wire conductor design
- Supporting element provides strain relief
- Flame retardant

Approvals



Technical data

Minimum bend radius: - for flexible use:	12.5 x cable diameter	Conductor stranding: - 18 AWG:	0.15 mm wire diameter
		- 16 AWG & larger:	0.20 mm wire diameter
Temperature range: - for flexible use:	-25°C to +80°C	Color code: - up to 5c:	VDE 0293-308: chart 6, page 681
	-40°C to +80°C	- 6c & higher:	black with white numbers, plus green/yellow ground
Nominal voltage:	300/500V	Approvals:	based on VDE 0250 CE & RoHS
Test voltage:	3000V		

Part number	Number of conductors incl. ground*	Nominal outer diameter		Tension lbs	Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS PG thread
		in	mm				
18 AWG (1 mm²)							
0039001	2	0.291	7.4	67	13	60	52015720
0039002	3	0.327	8.3	67	20	71	52015720
00390033	4	0.350	8.9	67	27	85	52015720
00390043	5	0.409	10.4	67	32	100	52015730
0039107	7	0.508	12.9	67	46	138	52015740
0039109	9	0.567	14.4	67	61	189	52015750
0039054	12	0.728	18.5	81	83	284	52015760
0039116	16	0.705	17.9	108	111	274	52015760
0039055	18	0.756	19.2	121	124	303	52015760
0039120	20	0.807	20.5	135	138	356	52015760
0039056	24	0.870	22.1	162	166	434	52015760
0039057	36	1.028	26.1	243	249	580	52015765
0039148	48	1.165	29.6	324	310	821	52015765
16 AWG (1.5 mm²)							
0039017	2	0.315	8.0	67	20	73	52015720
0039018	3	0.343	8.7	67	30	86	52015720
00390193	4	0.390	9.9	67	40	106	52015730
00390203	5	0.429	10.9	67	50	126	52015730
0039061	7	0.551	14.0	71	69	175	52015750
0039208	8	0.598	15.2	81	82	202	52015750
0039209	9	0.626	15.9	91	93	252	52015750
0039210	10	0.669	17.0	101	103	287	52015750
0039058	12	0.783	19.9	121	124	374	52015760
0039059	18	0.823	20.9	182	186	409	52015760
0039060	24	0.921	23.4	243	249	554	52015760

Part number	Number of conductors incl. ground*	Nominal outer diameter		Tension lbs	Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS PG thread
		in	mm				
14 AWG (2.5 mm²)							
0039034	2	0.382	9.7	67	33	97	52015730
0039035	3	0.402	10.2	67	50	116	52015730
00390363	4	0.457	11.6	67	66	147	52015730
00390373	5	0.488	12.4	84	81	174	52015740
0039307	7	0.654	16.6	118	115	254	52015750
0039309	9	0.744	18.9	152	154	348	52015760
0039312	12	0.917	23.3	202	207	517	52015760
0039316	16	0.898	22.8	270	276	503	52015760
0039318	18	0.961	24.4	304	290	562	52015760
0039324	24	1.122	28.5	405	387	796	52015765
0039336	36	1.307	33.2	607	581	1098	52015833
12 AWG (4 mm²)							
00390463	4	0.598	15.2	108	106	206	52015750
00390473	5	0.661	16.8	135	132	265	52015750
10 AWG (6 mm²)							
00390483	4	0.661	16.8	162	159	275	52015750
00390493	5	0.756	19.2	202	198	355	52015760
8 AWG (10 mm²)							
00390503	4	0.858	21.8	270	264	469	52015760
00390513	5	0.969	24.6	337	330	573	52015765
6 AWG (16 mm²)							
00390523	4	1.000	25.4	432	423	655	52015765
00390533	5	1.102	28.0	540	529	824	52015765

* 2c cable does not include ground

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ÖLFLEX® CRANE PUR

Releable PUR cable for low, medium & high mechanical stress



ÖLFLEX® CRANE PUR is a halogen-free pendant cable with a PUR jacket. It is designed with a smaller outer diameter to save space and weight. The central supporting element absorbs tensile loads, allowing reeling, unreeling, and deflection for free-hanging cables, even over large distances. The integrated support braid prevents undesirable cable twists and corkscrews.

Recommended applications

Hoists; transport and conveyor systems; reeling/unreeling guided by roller trains; dry or damp interiors, outdoors, or in industrial water

Cable attributes		page 648	
OIL	OR-05	FLAME	FR-02
MOTION	FL-02	MECH.	MP-05

Construction

Conductors: stranded bare copper wire

Insulation: TPE compound

Jacket: polyurethane with integrated support element; yellow

Application advantage

- Cost-saving due to use of smaller drums, guide rollers, and drive engines
- Good oil, chemical, thermal & mechanical resistance
- Halogen-free and flame retardant

Approvals



Complete the installation

SKINTOP® strain relief
page 492

EPIC® connectors
page 284

Technical data

Minimum bend radius:	7.5 x cable diameter	Conductor stranding:	Class 6 super fine wire
Temperature range: - for flexible use:	-40°C to +80°C	Color code: - up to 5c: - 6c & higher:	VDE 0293-308: chart 6, page 681 black with white numbers, plus green/yellow ground
Nominal voltage:	600/1000V	Approvals:	CE & RoHS
Test voltage:	4000V		

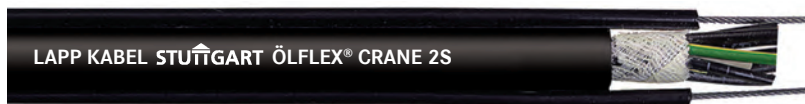
Part number	Number of conductors incl. ground	Nominal outer diameter		Tension	Copper weight	Approx. weight	SKINTOP® MS
		in	mm	lbs	lbs/mft	lbs/mft	PG thread
16 AWG (1.5 mm²)							
0045207	4	0.429	10.9	112	39	114	52015730
0045209	5	0.457	11.6	225	48	132	52015730
0045210	7	0.508	12.9	562	68	161	52015740
0045211	12	0.693	17.6	562	116	269	52015760
0045212	18	0.689	17.5	562	174	341	52015760
0045213	24	0.815	20.7	562	232	452	52015760
0045215	30	1.280	32.5	674	290	1028	52015833
0045214	36	1.236	31.4	674	348	679	52015833
14 AWG (2.5 mm²)							
0045216	4	0.480	12.2	112	65	153	52015740
0045218	5	0.520	13.2	450	81	184	52015740
0045220	7	0.606	15.4	674	113	241	52015750
0045221	12	0.850	21.6	674	194	416	52015760
0045222	18	0.846	21.5	674	290	533	52015760
0045223	24	1.004	25.5	674	387	755	52015765
0045224	30	1.366	34.7	674	484	1103	52015833

Part number	Number of conductors incl. ground	Nominal outer diameter		Tension	Copper weight	Approx. weight	SKINTOP® MS
		in	mm	lbs	lbs/mft	lbs/mft	PG thread
12 AWG (4 mm²)							
0045225	4	0.563	14.3	225	103	229	52015750
0045227	5	0.610	15.5	450	129	276	52015750
10 AWG (6 mm²)							
0045228	4	0.654	16.6	337	155	307	52015750
0045229	5	0.697	17.7	450	194	362	52015760
8 AWG (10 mm²)							
0045230	4	0.756	19.2	450	258	453	52015760
0045237	5	0.850	21.6	562	323	554	52015760
6 AWG (16 mm²)							
0045231	4	0.874	22.2	562	413	649	52015760
0045238	5	1.008	25.6	787	516	821	52015765
4 AWG (25 mm²)							
0045232	4	1.087	27.6	787	645	1012	52015765
2 AWG (35 mm²)							
0045233	4	1.220	31.0	1012	903	1347	52015833
1 AWG (50 mm²)							
0045234	4	1.421	36.1	1349	1290	1907	52015766

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ÖLFLEX® CRANE 2S

PVC cable with external steel supporting elements



ÖLFLEX® CRANE 2S is a cold-flexible PVC-jacketed power and control cable with two opposite supporting elements for flexible use. It is designed for use in dry, damp, or wet rooms. Outdoor use is possible. This cable is widely resistant to oils and acids at room temperature.

Recommended applications

Connection of movable control panels & consoles; self-supporting shaft cable; suitable for outdoor applications; NOT suitable for lift applications

Approvals



Cable attributes		page 648	
OIL	OR-01	FLAME	FR-02
MOTION	FL-02	MECH.	MP-02

Construction

Conductors: stranded bare copper wire


Insulation: PVC; special wrapping to improve sliding movement between jacket and cores

Jacket: PVC with two external steel support elements; black

Application advantage

- Steel support elements absorb tensile forces during operation
- Tensile strength of 472 lbs (2100 N) per supporting element
- Flexible at low temperatures
- Flame retardant acc. to IEC 60332.1.2

Complete the installation



SKINTOP® strain relief page 492

Technical data

Minimum bend radius:	20 x cable diameter	Conductor stranding:	Class 6 super fine wire
Temperature range: - for flexible use:	-15°C to +70°C	Color code:	black with white numbers, plus green/yellow ground
Nominal voltage:	300/500V	Approvals:	based on VDE 0250 CE & RoHS
Test voltage:	3000V		

Part number	Number of conductors incl. ground	Nominal outer diameter in mm	Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS PG thread	
16 AWG (1.5 mm²)						
0027503	8	0.579	14.7	77	250	52015750

Part number	Number of conductors incl. ground	Nominal outer diameter in mm	Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS PG thread	
0027504	12	0.638	16.2	116	295	52015750
0027505	20	0.791	20.1	194	453	52015760

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section. If not otherwise specified, all values relating to the product are nominal values. Photographs are not to scale and are not true representations of the products in question.

ÖLFLEX® FLAT

Flat festoon cable with PVC jacket; UL/CSA approval



ÖLFLEX® FLAT* is a UL/CSA approved PVC festoon power and control cable. The specially formulated PVC compound is UV-resistant and allows continuous festooning over a wide temperature range for both indoor and outdoor applications. *Trade product, no LAPP product.

Recommended applications

Overhead cranes; material handling systems; supply lines for moving machine parts

Cable attributes		page 648	
OIL	OR-01	FLAME	FR-02
MOTION	FL-02	MECH.	MP-01

Construction

Conductors: stranded bare copper wire

Insulation: PVC

Jacket: PVC; black or yellow

Shielded version: individually shielded conductors; tinned copper braid (90% coverage)

Application advantage

- Flat construction allows cables to be stacked for applications where space is limited
- Meets North American approvals

Approvals



Complete the installation

	SKINDICHT® SVF page 529		EPIC® connectors page 284
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Technical data

	Temperature range:			Color code:	ICEA-NEMA (K-2): chart 10, page 683
	- for flexible use:	-10°C to +70°C		<input checked="" type="checkbox"/>	Approvals:
	- for stationary use:	-40°C to +105°C			Canada: Certified Festoon Cable
	Rated voltage:	600V			Additional: RoHS

Part number		Number of conductors	Nominal outer diameter (height × width)		Copper weight lbs/mft	Approx. weight lbs/mft	SKINDICHT® SVF PG thread
black jacket	yellow jacket		in	mm			
16 AWG: unshielded							
811261	811234	8	0.200 x 1.110	5.1 x 28.2	64	180	52005500
811262	811232	12	0.200 x 1.605	5.1 x 40.8	96	270	52005520
16 AWG: shielded							
811358	—	4	0.225 x 0.700	5.7 x 17.8	69	160	52005490
811357	—	8	0.270 x 1.450	6.9 x 36.8	138	220	52005510
14 AWG							
811259	811269	4	0.240 x 0.690	6.1 x 17.5	51	120	52005490
811263	811233	8	0.240 x 1.334	6.1 x 33.9	103	220	52005510
811267	811272	12	0.240 x 1.950	6.1 x 49.5	155	340	52005530
12 AWG							
811264	811235	4	0.230 x 0.711	5.8 x 18.0	83	160	52005490
811273	811236	8	0.230 x 1.340	5.8 x 34.0	166	320	52005510
10 AWG							
811266	811237	4	0.270 x 0.880	6.9 x 22.4	132	240	52005500
8 AWG							
811270	811238	4	0.365 x 1.190	9.3 x 30.2	212	420	52005510
6 AWG							
811271	811239	4	0.430 x 1.450	10.9 x 36.8	333	600	52005510
4 AWG							
811279	811280	4	0.486 x 1.656	12.3 x 42.1	560	750	—
2 AWG							
811274	811240	4	0.559 x 1.959	14.2 x 49.8	852	1270	—

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section. If not otherwise specified, all values relating to the product are nominal values. Photographs are not to scale and are not true representations of the products in question.

ÖLFLEX® CRANE F

Flat festoon weather-proof rubber cable



ÖLFLEX® CRANE F is a flexible oil-resistant festoon, power, and control cable. The flat design allows space-saving installation and a smaller bending radius.

Recommended applications

Overhead crane & material handling systems; shipyards; waste water treatment plants; steel mills; high rack warehouses; indoor and outdoor use

Approvals



Cable attributes		page 648	
OIL	OR-01	FLAME	FR-02
MOTION	FL-02	MECH.	MP-01

Construction

Conductors: stranded bare copper

Insulation: rubber

Jacket: rubber compound; black

Application advantage

- Weather- and UV-resistant jacket for extreme environmental conditions
- Flame-retardant jacket
- May be used in continuous flex applications over a wide temperature range
- Flat construction allows cables to be stacked for a space-saving installation

Complete the installation

	SKINDICHT® SVF page 529		EPIC® connectors page 284
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Technical data

Minimum bend radius:	10 x cable height
Temperature range: - for flexible use:	-25°C to +90°C
Nominal voltage:	300/500V
Test voltage:	3000V

Conductor stranding:	- 16 - 4 AWG: Class 6 fine wire - 2 AWG & larger: Class 5 fine wire
Color code:	- up to 5c: VDE 0293-308: chart 6, page 681 - 6c & higher: black with white numbers, plus green/yellow ground
Approvals:	based on VDE 0250 (NGFLGÖU) CE & RoHS

Part number	Number of conductors incl. ground	Nominal outer diameter (height x width)		Copper weight lbs/mft	Approx. weight lbs/mft	SKINDICHT® SVF PG thread
		in	mm			
16 AWG (1.5 mm²)						
0041041	4	0.244 x 0.690	6.2 x 17.5	39	134	52005490
0041042	5	0.244 x 0.847	6.2 x 21.5	48	161	52005500
0041043	7	0.244 x 1.143	6.2 x 29.0	68	242	52005500
0041044	8	0.244 x 1.241	6.2 x 31.5	77	249	52005510
0041045	10	0.256 x 1.576	6.5 x 40.0	97	349	52005510
0041046	12	0.256 x 1.852	6.5 x 47.0	116	417	52005530
14 AWG (2.5 mm²)						
0041047	4	0.296 x 0.827	7.5 x 21.0	65	188	52005490
0041048	5	0.296 x 1.064	7.5 x 27.0	81	269	52005500
0041049	7	0.296 x 1.379	7.5 x 35.0	113	349	52005510
0041050	8	0.296 x 1.537	7.5 x 39.0	129	370	52005510
0041051	12	0.315 x 2.206	8.0 x 56.0	194	538	—
12 AWG (4 mm²)						
0041052	4	0.355 x 1.024	9.0 x 26.0	103	276	52005500
0041053	7	0.355 x 1.655	9.0 x 42.0	181	470	52005520
10 AWG (6 mm²)						
0041054	4	0.374 x 1.143	9.5 x 29.0	155	403	52005500
0041055	5	0.374 x 1.379	9.5 x 35.0	194	437	52005510
0041056	7	0.374 x 1.655	9.5 x 42.0	271	571	52005520

Part number	Number of conductors incl. ground	Nominal outer diameter (height x width)		Copper weight lbs/mft	Approx. weight lbs/mft	SKINDICHT® SVF PG thread
		in	mm			
8 AWG (10 mm²)						
0041057	4	0.433 x 1.300	11.0 x 33.0	258	538	52005510
0041058	5	0.433 x 1.734	11.0 x 44.0	323	672	52005520
6 AWG (16 mm²)						
0041059	4	0.512 x 1.497	13.0 x 38.0	413	773	—
4 AWG (25 mm²)						
0041060	4	0.591 x 1.950	15.0 x 49.5	645	1142	—
2 AWG (35 mm²)						
0041061	4	0.670 x 2.167	17.0 x 55.0	903	1478	—
1/0 AWG (50 mm²)						
0041062	4	0.749 x 2.482	19.0 x 63.0	1290	2016	—
2/0 AWG (70 mm²)						
0041063	4	0.867 x 2.797	22.0 x 71.0	1806	2688	—

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section. If not otherwise specified, all values relating to the product are nominal values. Photographs are not to scale and are not true representations of the products in question.

ÖLFLEX® LIFT F

Flat festoon cable with PVC jacket



ÖLFLEX® LIFT F is a flat control cable with special cold-resistant PVC insulation and black PVC jacket. According to VDE definition, this cable can also be used as an elevator control cable.

Recommended applications

Conveyor systems; hoists; cable trolleys; supply lines for moving machine parts; cable tracks; lift applications

Construction

- Conductors:** finely stranded bare copper
- Insulation:** PVC
- Jacket:** PVC; black

Application advantage

- Flame-retardant jacket
- Improved flexibility due to finely stranded conductors
- Meets requirements of the harmonized PVC flat cable H05VVH6-F & H07VVH6-F

Cable attributes		page 648
OIL	OR-01	FLAME
MOTION	FL-02	MECH.
		FR-02
		MP-01

Complete the installation	
SKINDICHT® SVF	EPIC® connectors
page 529	page 284

Approvals


Technical data

Minimum bend radius:	10 x cable height	Conductor stranding:	Class 5 fine wire
Temperature range:		Color code:	
- for flexible use:		- up to 5c:	VDE 0293-308: chart 6, page 681
- 18 AWG:	0°C to +70°C	- 6c & higher:	black with white numbers, plus green/yellow ground
- 16 AWG & larger:	-15°C to +70°C		
Nominal voltage:		Approvals:	based on EN 50214/VDE 0283-2 (H05VVH6-F or H07VVH6-F) CE & RoHS
- 18 AWG:	300/500V		
- 16 AWG & larger:	450/750V		

Part number	Number of conductors incl. ground	Single wire diameter		Nominal outer diameter (height x width)		Copper weight lbs/mft	Approx. weight lbs/mft	SKINDICHT® SVF PG thread
		in	mm	in	mm			
18 AWG (1 mm²)								
0042020	12	0.008	0.21	0.185 x 1.418	4.7 x 36.0	77	263	52005510
0042021	16	0.008	0.21	0.185 x 1.911	4.7 x 48.5	103	350	—
0042022	20	0.008	0.21	0.185 x 2.325	4.7 x 59.0	129	433	—
0042023	24	0.008	0.21	0.185 x 2.817	4.7 x 71.5	155	519	—
16 AWG (1.5 mm²)								
00420013	4	0.006	0.15	0.205 x 0.611	5.2 x 15.5	39	89	52005480
00420023	5	0.006	0.15	0.205 x 0.776	5.2 x 19.7	48	114	52005490
0042003	7	0.006	0.15	0.205 x 1.064	5.2 x 27.0	68	159	52005500
0042004	8	0.006	0.15	0.205 x 1.143	5.2 x 29.0	77	179	52005500
0042005	10	0.006	0.15	0.205 x 1.438	5.2 x 36.5	97	224	52005510
0042006	12	0.006	0.15	0.205 x 1.655	5.2 x 42.0	116	284	52005520
14 AWG (2.5 mm²)								
00420073	4	0.006	0.15	0.232 x 0.749	5.9 x 19.0	65	138	52005490
00420083	5	0.006	0.15	0.232 x 0.946	5.9 x 24.0	81	173	52005500
0042009	7	0.006	0.15	0.232 x 1.281	5.9 x 32.5	113	232	52005510
0042010	8	0.006	0.15	0.232 x 1.379	5.9 x 35.0	129	262	52005510
0042050	12	0.006	0.15	0.232 x 2.069	5.9 x 52.5	194	390	—
12 AWG (4 mm²)								
00420113	4	0.006	0.15	0.268 x 0.827	6.8 x 21.0	103	230	52005490
0042012	7	0.006	0.15	0.268 x 1.497	6.8 x 38.0	181	396	52005510
10 AWG (6 mm²)								
00420133	4	0.008	0.20	0.288 x 0.946	7.3 x 24.0	155	286	52005500
8 AWG (10 mm²)								
00420143	4	0.012	0.30	0.374 x 1.202	9.5 x 30.5	258	476	52005500
6 AWG (16 mm²)								
00420153	4	0.012	0.30	0.426 x 1.379	10.8 x 35.0	413	682	52005500
4 AWG (25 mm²)								
00420163	4	0.012	0.30	0.512 x 1.655	13.0 x 42.0	645	918	—

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section. If not otherwise specified, all values relating to the product are nominal values. Photographs are not to scale and are not true representations of the products in question.



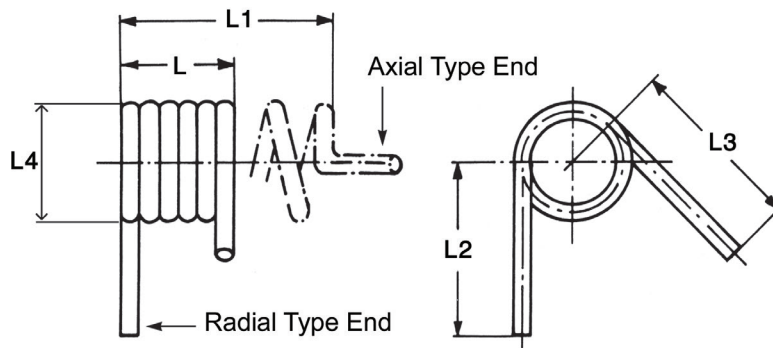
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Retractable power supply cable with safety yellow PUR jacket
- 156 UNITRONIC® SPIRAL**
Retractable shielded data cable with PUR jacket
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Retractable unshielded data cable with PUR jacket
- 160 SPIRAL H07BQ-F BLACK**
Retractable power supply cable with PUR jacket

Quick select chart

Product	Jacket material	AWG range	Temperature range	Nominal voltage rating	Extension capability	Page
ÖLFLEX® SPIRAL 400 P	PUR	18 - 14 AWG	+5°C to +50°C	300/500V	x 3	152
ÖLFLEX® SPIRAL 540 P	PUR	18 - 14 AWG	-30°C to +50°C	18 AWG: 300/500V 16- 14 AWG: 450/750V	x 3.5	154
UNITRONIC® SPIRAL	PUR	26 - 24 AWG	-5°C to +50°C	250V (not for power)	x 4	156
UNITRONIC® SPIRAL LiF2Y11Y	PUR	26 - 24 AWG	-5°C to +50°C	250V (not for power)	x 4	158
SPIRAL H07BQ-F BLACK	PUR	16 AWG	-25°C to +50°C	450/750V	x 3	160

ÖLFLEX® special-design custom coil cords

Non-standard quotation inquiry form



ÖLFLEX® cable type: 400 P 490 P 540 P 590 P 855 P Other

Cable part number: _____ AWG & number of conductors: _____

Description: _____

Retracted length (L): _____ in. Extended length (L1): _____ in.

Retracted tail length (L2): _____ in. Extended tail length (L3): _____ in.

Retracted tail type: Radial Axial Extended tail type: Radial Axial

Spiral outer diameter (L4): _____ in.

Quantity: _____ Breaks (if required): _____

Contact name: _____

Company name: _____

Phone: _____

Fax completed form to 973-660-9330 or email to sales@lappusa.com or your local LAPP representative.

ÖLFLEX® SPIRAL 400 P

Retractable control cable with PUR jacket



ÖLFLEX® SPIRAL 400 P is a retractable multi-conductor control cable with a rugged abrasion-resistant polyurethane jacket and an extension capability of up to 3 times its retracted length.

Construction

Conductors: finely stranded bare copper

Insulation: PVC; dry lubricant

Jacket: specially formulated polyurethane; gray

Recommended applications

Machine tool manufacturing; cranes and hoists

Application advantage

- Excellent resistance to mineral oils and cutting fluids
- Highly resistant to mechanical abuse typically found in industrial applications
- Special spiral designs are available, see page 151

Approvals



Cable attributes page 648

OIL	OR-05	FLAME	FR-02
MOTION	FL-02	MECH.	MP-05

Complete the installation



SKINTOP®
strain relief
page 492



EPIC®
connectors
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Technical data

Length & type of tails:	8 in (200 mm), tangential 24 in (600 mm), tangential	Conductor stranding:	Class 5 fine wire
Temperature range:	+5°C to +50°C	Color code:	black with white numbers, plus green/yellow ground
Nominal voltage:	300/500V	Approvals:	CE & RoHS
Test voltage:	3000V		

If not otherwise specified, all values relating to the product are nominal values. Photographs are not to scale and are not true representations of the products in question.

ÖLFLEX® SPIRAL 400 P

Part number	Number of conductors* incl. ground	Nominal outer diameter		Nominal spiral outer diameter		Extended spiral length		Retracted spiral length		Copper weight lbs/100 pcs.	Approx. weight lbs/100 pcs.	SKINTOP® SL PG thread
		in	mm	in	mm	in	mm	in	mm			
18 AWG (1 mm²)												
70002646	2	0.224	5.7	0.788	20	59	1500	20	500	20	48	S1107
70002647	2	0.224	5.7	0.788	20	118	3000	39	1000	36	88	S1107
70002648	2	0.224	5.7	0.788	20	177	4500	59	1500	51	121	S1107
70002649	2	0.224	5.7	0.788	20	236	6000	79	2000	61	158	S1107
70002651	3	0.236	6.0	0.827	21	59	1500	20	500	29	58	S1109
70002652	3	0.236	6.0	0.827	21	118	3000	39	1000	54	109	S1109
70002653	3	0.236	6.0	0.827	21	177	4500	59	1500	78	156	S1109
70002654	3	0.236	6.0	0.827	21	236	6000	79	2000	93	196	S1109
70002656	4	0.256	6.5	0.946	24	59	1500	20	500	39	76	S1109
70002657	4	0.256	6.5	0.946	24	118	3000	39	1000	72	134	S1109
70002658	4	0.256	6.5	0.946	24	177	4500	59	1500	111	190	S1109
70002659	4	0.256	6.5	0.946	24	236	6000	79	2000	130	257	S1109
70002661	5	0.280	7.1	0.985	25	59	1500	20	500	49	84	S1111
70002662	5	0.280	7.1	0.985	25	118	3000	39	1000	90	145	S1111
70002663	5	0.280	7.1	0.985	25	177	4500	59	1500	133	212	S1111
70002664	5	0.280	7.1	0.985	25	236	6000	79	2000	165	301	S1111
70002666	7	0.315	8.0	1.182	30	49	1250	20	500	73	119	S1111
70002667	7	0.315	8.0	1.182	30	98	2500	39	1000	125	213	S1111
70002668	7	0.315	8.0	1.182	30	148	3750	59	1500	170	320	S1111
70002669	7	0.315	8.0	1.182	30	197	5000	79	2000	260	408	S1111
70002670	12	0.414	10.5	1.4578	37	59.1	1500	19.7	500	132	215	S1113
70002671	12	0.414	10.5	1.4578	37	118.2	3000	39.4	1000	223	372	S1113
70002672	18	0.500	12.7	1.773	45	59.1	1500	19.7	500	196	287	S1116
70002673	18	0.500	12.7	1.773	45	118.2	3000	39.4	1000	309	548	S1116
16 AWG (1.5 mm²)												
70002681	2	0.248	6.3	0.906	23	59	1500	20	500	32	65	S1109
70002682	2	0.248	6.3	0.906	23	118	3000	39	1000	59	119	S1109
70002683	2	0.248	6.3	0.906	23	177	4500	59	1500	84	165	S1109
70002684	2	0.248	6.3	0.906	23	236	6000	79	2000	109	229	S1109
70002687	3	0.264	6.7	0.946	24	59	1500	20	500	47	82	S1109
70002688	3	0.264	6.7	0.946	24	118	3000	39	1000	81	143	S1109
70002689	3	0.264	6.7	0.946	24	177	4500	59	1500	110	207	S1109
70002690	3	0.264	6.7	0.946	24	236	6000	79	2000	147	280	S1109
70002699	5	0.319	8.1	1.182	30	49	1250	20	500	75	119	S1111
70002700	5	0.319	8.1	1.182	30	98	2500	39	1000	132	213	S1111
70002701	5	0.319	8.1	1.182	30	148	3750	59	1500	191	311	S1111
70002702	5	0.319	8.1	1.182	30	197	5000	79	2000	259	432	S1111
70002705	7	0.350	8.9	1.221	31	49	1250	20	500	101	143	S1111
70002706	7	0.350	8.9	1.221	31	98	2500	39	1000	179	253	S1111
70002707	7	0.350	8.9	1.221	31	148	3750	59	1500	245	394	S1111
70002708	7	0.350	8.9	1.221	31	197	5000	79	2000	332	489	S1111
70002709	12	0.473	12	1.8124	46	59.1	1500	19.7	500	214	284	S1113
70002710	12	0.473	12	1.8124	46	118.2	3000	39.4	1000	366	529	S1113
70002711	18	0.528	13.4	2.0488	52	59.1	1500	19.7	500	278	432	S1116
70002712	18	0.528	13.4	2.0488	52	118.2	3000	39.4	1000	499	740	S1116
14 AWG (2.5 mm²)												
70002716	3	0.319	8.1	1.123	29	49	1250	20	500	75	120	S1111
70002717	3	0.319	8.1	1.123	29	98	2500	39	1000	142	264	S1111
70002718	3	0.319	8.1	1.123	29	148	3750	59	1500	196	322	S1111
70002719	3	0.319	8.1	1.123	29	197	5000	79	2000	237	429	S1111
70002721	5	0.394	10.0	1.458	37	49	1250	20	500	138	202	S1113
70002722	5	0.394	10.0	1.458	37	98	2500	39	1000	236	364	S1113
70002723	5	0.394	10.0	1.458	37	148	3750	59	1500	329	540	S1113
70002724	5	0.394	10.0	1.458	37	197	5000	79	2000	437	681	S1113

* 2c cable does not include ground

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section. If not otherwise specified, all values relating to the product are nominal values.

for current information see: www.lappusa.com • www.lappcanada.com

ÖLFLEX® SPIRAL 540 P

Retractable power supply cable with safety yellow PUR jacket



ÖLFLEX® SPIRAL 540 P is a multi-conductor, TPE-insulated, retractable power supply cable with a yellow polyurethane outer jacket. It may be used both indoors and outdoors in wet, dry, or hot conditions. The cable has an extension capability of up to 3.5 times its retracted length.

Recommended applications

Power supply for machine tools, cranes, and hoists

Approvals



Construction

Conductors: finely stranded bare copper

Insulation: TPE; dry lubricant

Jacket: flame-retardant polyurethane; yellow

Application advantage

- Highly visible safety yellow jacket
- Abrasion- and cut-resistant jacket
- Highly resistant to oils and low temperatures
- Halogen-free jacket
- Special spiral designs are available, see page 151

Cable attributes page 648

OIL	OR-05	FLAME	FR-02
MOTION	FL-02	MECH.	MP-05

Complete the installation



SKINTOP® strain relief
page 492



EPIC® connectors
page 284

Technical data

Length & type of tails:	8 in (200 mm), tangential 24 in (600 mm), tangential	Conductor stranding:	Class 5 fine wire
Temperature range:	-30°C to +50°C	Color code:	- up to 5c: VDE 0293-308: chart 6, page 681 - 7c: black with white numbers, plus green/yellow ground
Nominal voltage:	- 18 AWG: 300/500V - 16 - 14 AWG: 450/750V	Approvals:	CE & RoHS
Test voltage:	3000V		

If not otherwise specified, all values relating to the product are nominal values. Photographs are not to scale and are not true representations of the products in question.

ÖLFLEX® SPIRAL 540 P

Part number	Number of conductors incl. ground*	Nominal outer diameter		Nominal spiral outer diameter		Extended spiral length		Retracted spiral length		Copper weight lbs/100 pcs.	Approx. weight lbs/100 pcs.	SKINTOP® SL PG thread
		in	mm	in	mm	in	mm	in	mm			
18 AWG (1 mm²)												
73220123	2	0.276	7.0	0.946	24	39	1000	12	300	14	38	S2111
73220124	2	0.276	7.0	0.946	24	79	2000	24	600	23	60	S2111
73220125	2	0.276	7.0	0.946	24	138	3500	39	1000	35	92	S2111
73220126	2	0.276	7.0	0.946	24	197	5000	59	1500	49	138	S2111
73220127	3	0.292	7.4	1.143	29	39	1000	12	300	24	54	S2111
73220128	3	0.292	7.4	1.143	29	79	2000	24	600	41	91	S2111
73220129	3	0.292	7.4	1.143	29	138	3500	39	1000	61	142	S2111
73220130	3	0.292	7.4	1.143	29	197	5000	59	1500	87	210	S2111
71220131	4	0.323	8.2	1.182	30	39	1000	12	300	30	63	S2111
71220132	4	0.323	8.2	1.182	30	79	2000	24	600	50	97	S2111
71220133	4	0.323	8.2	1.182	30	138	3500	39	1000	78	155	S2111
71220134	4	0.323	8.2	1.182	30	197	5000	59	1500	109	232	S2111
71220135	5	0.355	9.0	1.261	32	39	1000	12	300	36	70	S2113
71220136	5	0.355	9.0	1.261	32	79	2000	24	600	60	115	S2113
71220137	5	0.355	9.0	1.261	32	138	3500	39	1000	93	187	S2113
71220138	5	0.355	9.0	1.261	32	197	5000	59	1500	123	262	S2113
73220139	7	0.430	10.9	1.576	40	39	1000	14	350	53	114	S2113
73220140	7	0.430	10.9	1.576	40	79	2000	28	700	96	209	S2113
73220141	7	0.430	10.9	1.576	40	138	3500	47	1200	155	340	S2113
73220142	7	0.430	10.9	1.576	40	197	5000	67	1700	203	425	S2113
16 AWG (1.5 mm²)												
73220143	2	0.331	8.4	1.221	31	39	1000	12	300	23	62	S2111
73220144	2	0.331	8.4	1.221	31	79	2000	24	600	38	101	S2111
73220145	2	0.331	8.4	1.221	31	138	3500	39	1000	58	163	S2111
73220146	2	0.331	8.4	1.221	31	197	5000	59	1500	84	239	S2111
73220147	3	0.351	8.9	1.261	32	39	1000	12	300	33	69	S2113
73220148	3	0.351	8.9	1.261	32	79	2000	24	600	52	116	S2113
73220149	3	0.351	8.9	1.261	32	138	3500	39	1000	81	183	S2113
73220150	3	0.351	8.9	1.261	32	197	5000	59	1500	114	263	S2113
71220151	5	0.430	10.9	1.576	40	39	1000	14	350	63	120	S2113
71220152	5	0.430	10.9	1.576	40	79	2000	28	700	99	205	S2113
71220153	5	0.430	10.9	1.576	40	138	3500	47	1200	172	336	S2113
71220154	5	0.430	10.9	1.576	40	197	5000	67	1700	237	447	S2113
73220155	7	0.532	13.5	2.049	52	39	1000	14	350	85	185	S2121
73220156	7	0.532	13.5	2.049	52	79	2000	28	700	150	325	S2121
73220157	7	0.532	13.5	2.049	52	138	3500	47	1200	255	543	S2121
73220158	7	0.532	13.5	2.049	52	197	5000	67	1700	351	786	S2121
14 AWG (2.5 mm²)												
73220159	3	0.418	10.6	1.576	40	39	1000	14	350	61	118	S2113
73220160	3	0.418	10.6	1.576	40	79	2000	28	700	102	201	S2113
73220161	3	0.418	10.6	1.576	40	138	3500	47	1200	170	345	S2113
73220162	3	0.418	10.6	1.576	40	197	5000	67	1700	226	486	S2113
71220163	5	0.528	13.4	2.009	51	39	1000	14	350	110	187	S2116
71220164	5	0.528	13.4	2.009	51	79	2000	28	700	192	335	S2116
71220165	5	0.528	13.4	2.009	51	138	3500	47	1200	305	553	S2116
71220166	5	0.528	13.4	2.009	51	197	5000	67	1700	416	744	S2116

* 2c cable does not include ground

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section. If not otherwise specified, all values relating to the product are nominal values.

for current information see: www.lappusa.com • www.lappcanada.com

UNITRONIC® SPIRAL

Retractable shielded data cable with PUR jacket



UNITRONIC® SPIRAL is a shielded multi-conductor signal and data cable designed to extend 4 times its retracted length. With a polyurethane outer jacket, UNITRONIC® SPIRAL is robust for heavier duty applications.

Recommended applications

Computers; data transmission; office equipment; process, control, and instrumentation applications

Approvals



Construction

Conductors: finely stranded bare copper

Insulation: PVC; dry lubricant

Shielding: copper spiral shield

Jacket: specially formulated polyurethane; black

Application advantage

- Overall shield prevents interference for accurate pulse transmission
- Highly flexible
- Excellent for confined areas where installation is tight
- Polyurethane jacket for extra ruggedness
- Special spiral designs are available, see page 151

Cable attributes page 648

	OIL	OR-05		FLAME	FR-02
	MOTION	FL-02		MECH.	MP-01

Complete the installation

	SKINTOP® strain relief page 492		EPIC® connectors page 284
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Technical data

	Length & type of tails:	8 in (200 mm), tangential 24 in (600 mm), tangential		Conductor stranding:	Class 6 fine wire
	Temperature range:	-5°C to +50°C		Color code:	DIN 47100: chart 8, page 682
	Nominal voltage:	250V (not for power applications)		Approvals:	based on VDE specifications RoHS
	Test voltage:	1200V			

Part number	Number of conductors incl. ground	Nominal outer diameter		Nominal spiral outer diameter		Extended spiral length		Retracted spiral length		SKINTOP® SL PG thread
		in	mm	in	mm	in	mm	in	mm	
26 AWG (0.14 mm²)										
73220200	2	0.162	4.1	0.591	15	16	400	4	100	S2107
73220201	2	0.162	4.1	0.591	15	32	800	8	200	S2107
73220202	2	0.162	4.1	0.591	15	47	1200	12	300	S2107
73220203	2	0.162	4.1	0.591	15	63	1600	16	400	S2107
73220204	2	0.162	4.1	0.591	15	79	2000	20	500	S2107
73220205	3	0.169	4.3	0.709	18	16	400	4	100	S2107
73220206	3	0.169	4.3	0.709	18	32	800	8	200	S2107
73220207	3	0.169	4.3	0.709	18	47	1200	12	300	S2107
73220208	3	0.169	4.3	0.709	18	63	1600	16	400	S2107
73220209	3	0.169	4.3	0.709	18	79	2000	20	500	S2107
73220210	4	0.177	4.5	0.748	19	16	400	4	100	S2107
73220211	4	0.177	4.5	0.748	19	32	800	8	200	S2107

If not otherwise specified, all values relating to the product are nominal values. Photographs are not to scale and are not true representations of the products in question.

UNITRONIC® SPIRAL

Part number	Number of conductors incl. ground	Nominal outer diameter		Nominal spiral outer diameter		Extended spiral length		Retracted spiral length		SKINTOP® SL PG thread
		in	mm	in	mm	in	mm	in	mm	
73220212	4	0.177	4.5	0.748	19	47	1200	12	300	S2107
73220213	4	0.177	4.5	0.748	19	63	1600	16	400	S2107
73220214	4	0.177	4.5	0.748	19	79	2000	20	500	S2107
73220215	5	0.189	4.8	0.787	20	16	400	4	100	S2107
73220216	5	0.189	4.8	0.787	20	32	800	8	200	S2107
73220217	5	0.189	4.8	0.787	20	47	1200	12	300	S2107
73220218	5	0.189	4.8	0.787	20	63	1600	16	400	S2107
73220219	5	0.189	4.8	0.787	20	79	2000	20	500	S2107
73220220	6	0.217	5.5	0.827	21	16	400	4	100	S2109
73220221	6	0.217	5.5	0.827	21	32	800	8	200	S2109
73220222	6	0.217	5.5	0.827	21	47	1200	12	300	S2109
73220223	6	0.217	5.5	0.827	21	63	1600	16	400	S2109
73220224	6	0.217	5.5	0.827	21	79	2000	20	500	S2109
73220225	7	0.232	5.9	0.906	23	16	400	4	100	S2109
73220226	7	0.232	5.9	0.906	23	31	800	8	200	S2109
73220227	7	0.232	5.9	0.906	23	47	1200	12	300	S2109
73220228	7	0.232	5.9	0.906	23	63	1600	16	400	S2109
73220229	7	0.232	5.9	0.906	23	79	2000	20	500	S2109
73220230	12	0.284	7.2	1.063	27	16	400	4	100	S2111
73220231	12	0.284	7.2	1.063	27	32	800	8	200	S2111
73220232	12	0.284	7.2	1.063	27	47	1200	12	300	S2111
73220233	12	0.284	7.2	1.063	27	63	1600	16	400	S2111
73220234	12	0.284	7.2	1.063	27	79	2000	20	500	S2111
73220235	18	0.315	8.0	1.142	29	16	400	4	100	S2111
73220236	18	0.315	8.0	1.142	29	32	800	8	200	S2111
73220237	18	0.315	8.0	1.142	29	47	1200	12	300	S2111
73220238	18	0.315	8.0	1.142	29	63	1600	16	400	S2111
73220239	18	0.315	8.0	1.142	29	79	2000	20	500	S2111
24 AWG (0.25 mm²)										
73220240	2	0.185	4.7	0.709	18	16	400	4	100	S2107
73220241	2	0.185	4.7	0.709	18	31	800	8	200	S2107
73220242	2	0.185	4.7	0.709	18	47	1200	12	300	S2107
73220243	2	0.185	4.7	0.709	18	63	1600	16	400	S2107
73220244	2	0.185	4.7	0.709	18	79	2000	20	500	S2107
73220245	3	0.209	5.3	0.748	19	16	400	4	100	S2109
73220246	3	0.209	5.3	0.748	19	31	800	8	200	S2109
73220247	3	0.209	5.3	0.748	19	47	1200	12	300	S2109
73220248	3	0.209	5.3	0.748	19	63	1600	16	400	S2109
73220249	3	0.209	5.3	0.748	19	79	2000	20	500	S2109
73220250	4	0.220	5.6	0.787	20	16	400	4	100	S2109
73220251	4	0.220	5.6	0.787	20	31	800	8	200	S2109
73220252	4	0.220	5.6	0.787	20	47	1200	12	300	S2109
73220253	4	0.220	5.6	0.787	20	63	1600	16	400	S2109
73220254	4	0.220	5.6	0.787	20	79	2000	20	500	S2109
73220255	5	0.236	6	0.827	21	16	400	4	100	S2109
73220256	5	0.236	6	0.827	21	31	800	8	200	S2109
73220257	5	0.236	6	0.827	21	47	1200	12	300	S2109
73220258	5	0.236	6	0.827	21	63	1600	16	400	S2109
73220259	5	0.236	6	0.827	21	79	2000	20	500	S2109
73220260	6	0.268	6.8	0.984	25	16	400	4	100	S2111
73220261	6	0.268	6.8	0.984	25	31	800	8	200	S2111
73220262	6	0.268	6.8	0.984	25	47	1200	12	300	S2111
73220263	6	0.268	6.8	0.984	25	63	1600	16	400	S2111
73220264	6	0.268	6.8	0.984	25	79	2000	20	500	S2111
73220265	7	0.287	7.3	1.024	26	16	400	4	100	S2111
73220266	7	0.287	7.3	1.024	26	31	800	8	200	S2111
73220267	7	0.287	7.3	1.024	26	47	1200	12	300	S2111
73220268	7	0.287	7.3	1.024	26	63	1600	16	400	S2111
73220269	7	0.287	7.3	1.024	26	79	2000	20	500	S2111
73220270	12	0.331	8.4	1.181	30	16	400	4	100	S2113
73220271	12	0.331	8.4	1.181	30	31	800	8	200	S2113
73220272	12	0.331	8.4	1.181	30	47	1200	12	300	S2113
73220273	12	0.331	8.4	1.181	30	63	1600	16	400	S2113
73220274	12	0.331	8.4	1.181	30	79	2000	20	500	S2113
73220275	18	0.374	9.5	1.220	31	16	400	4	100	S2113
73220276	18	0.374	9.5	1.220	31	31	800	8	200	S2113
73220277	18	0.374	9.5	1.220	31	47	1200	12	300	S2113
73220278	18	0.374	9.5	1.220	31	63	1600	16	400	S2113
73220279	18	0.374	9.5	1.220	31	79	2000	20	500	S2113

Custom configurations are available. Utilize the custom cable design form on page 151 or contact your LAPP sales representative.

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section. If not otherwise specified, all values relating to the product are nominal values.

UNITRONIC® SPIRAL LiF2Y11Y

Retractable unshielded data cable with PUR jacket



UNITRONIC® SPIRAL LiF2Y11Y is an unshielded multi-conductor signal and data cable designed to extend up to 4 times its retracted length. Designed with a polyurethane outer jacket, it is robust for heavier duty applications.

Recommended applications

Electronic applications; measurement and control engineering; handling and measurement equipment; conveyor and transport systems

Approvals



Construction

Conductors: finely stranded bare copper

Insulation: based on polyolefin

Jacket: specially formulated polyurethane, gray

Application advantage

- Abrasion- and cut-resistant jacket
- Very high flexibility
- Halogen-free and flame retardant
- Special spiral designs are available, see page 151

Cable attributes page 648

OIL	OR-05	FLAME	FR-02
MOTION	FL-02	MECH.	MP-05

Complete the installation

	SKINTOP® strain relief page 492		EPIC® connectors page 284
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Technical data

Length & Type of Tails:	8 in (200 mm), tangential 24 in (600 mm), tangential	Conductor stranding:	Class 6 fine wire
Temperature range:	-5°C to +50°C	Color code:	DIN 47100: chart 8, page 682
Nominal voltage:	250V (not for power applications)	Approvals:	CE & RoHS
Test voltage:	1200V		

Part number	Number of conductors incl. ground	Nominal outer diameter		Nominal spiral outer diameter		Extended spiral length		Retracted spiral length		SKINTOP® SL PG thread
		in	mm	in	mm	in	mm	in	mm	
26 AWG (0.14 mm²)										
73220300	2	0.134	3.4	0.551	14	16	400	4	100	S1107
73220301	2	0.134	3.4	0.551	14	31	800	8	200	S1107
73220302	2	0.134	3.4	0.551	14	47	1200	12	300	S1107
73220303	2	0.134	3.4	0.551	14	63	1600	16	400	S1107
73220304	2	0.134	3.4	0.551	14	79	2000	20	500	S1107
73220305	3	0.154	3.9	0.591	15	16	400	4	100	S1107
73220306	3	0.154	3.9	0.591	15	31	800	8	200	S1107
73220307	3	0.154	3.9	0.591	15	47	1200	12	300	S1107
73220308	3	0.154	3.9	0.591	15	63	1600	16	400	S1107
73220309	3	0.154	3.9	0.591	15	79	2000	20	500	S1107
73220310	4	0.165	4.2	0.669	17	16	400	4	100	S1107
73220311	4	0.165	4.2	0.669	17	31	800	8	200	S1107

If not otherwise specified, all values relating to the product are nominal values. Photographs are not to scale and are not true representations of the products in question.

UNITRONIC® SPIRAL LiF2Y11Y

Part number	Number of conductors incl. ground	Nominal outer diameter		Nominal spiral outer diameter		Extended spiral length		Retracted spiral length		SKINTOP® SL PG thread
		in	mm	in	mm	in	mm	in	mm	
73220312	4	0.165	4.2	0.669	17	47	1200	12	300	S1107
73220313	4	0.165	4.2	0.669	17	63	1600	16	400	S1107
73220314	4	0.165	4.2	0.669	17	79	2000	20	500	S1107
73220315	5	0.177	4.5	0.748	19	16	400	4	100	S1107
73220316	5	0.177	4.5	0.748	19	31	800	8	200	S1107
73220317	5	0.177	4.5	0.748	19	47	1200	12	300	S1107
73220318	5	0.177	4.5	0.748	19	63	1600	16	400	S1107
73220319	5	0.177	4.5	0.748	19	79	2000	20	500	S1107
73220320	6	0.189	4.8	0.748	19	16	400	4	100	S1107
73220321	6	0.189	4.8	0.748	19	31	800	8	200	S1107
73220322	6	0.189	4.8	0.748	19	47	1200	12	300	S1107
73220323	6	0.189	4.8	0.748	19	63	1600	16	400	S1107
73220324	6	0.189	4.8	0.748	19	79	2000	20	500	S1107
73220325	7	0.201	5.1	0.787	20	16	400	4	100	S1109
73220326	7	0.201	5.1	0.787	20	31	800	8	200	S1109
73220327	7	0.201	5.1	0.787	20	47	1200	12	300	S1109
73220328	7	0.201	5.1	0.787	20	63	1600	16	400	S1109
73220329	7	0.201	5.1	0.787	20	79	2000	20	500	S1109
73220330	12	0.232	5.9	0.827	21	16	400	4	100	S1109
73220331	12	0.232	5.9	0.827	21	31	800	8	200	S1109
73220332	12	0.232	5.9	0.827	21	47	1200	12	300	S1109
73220333	12	0.232	5.9	0.827	21	63	1600	16	400	S1109
73220334	12	0.232	5.9	0.827	21	79	2000	20	500	S1109
73220335	18	0.268	6.8	1.063	27	16	400	4	100	S1109
73220336	18	0.268	6.8	1.063	27	31	800	8	200	S1109
73220337	18	0.268	6.8	1.063	27	47	1200	12	300	S1109
73220338	18	0.268	6.8	1.063	27	63	1600	16	400	S1109
73220339	18	0.268	6.8	1.063	27	79	2000	20	500	S1109
24 AWG (0.25 mm²)										
73220340	2	0.169	4.3	0.709	18	16	400	4	100	S1107
73220341	2	0.169	4.3	0.709	18	31	800	8	200	S1107
73220342	2	0.169	4.3	0.709	18	47	1200	12	300	S1107
73220343	2	0.169	4.3	0.709	18	63	1600	16	400	S1107
73220344	2	0.169	4.3	0.709	18	79	2000	20	500	S1107
73220345	3	0.177	4.5	0.748	19	16	400	4	100	S1107
73220346	3	0.177	4.5	0.748	19	31	800	8	200	S1107
73220347	3	0.177	4.5	0.748	19	47	1200	12	300	S1107
73220348	3	0.177	4.5	0.748	19	63	1600	16	400	S1107
73220349	3	0.177	4.5	0.748	19	79	2000	20	500	S1107
73220350	4	0.193	4.9	0.787	20	16	400	4	100	S1107
73220351	4	0.193	4.9	0.787	20	31	800	8	200	S1107
73220352	4	0.193	4.9	0.787	20	47	1200	12	300	S1107
73220353	4	0.193	4.9	0.787	20	63	1600	16	400	S1107
73220354	4	0.193	4.9	0.787	20	79	2000	20	500	S1107
73220355	5	0.209	5.3	0.787	20	16	400	4	100	S1109
73220356	5	0.209	5.3	0.787	20	31	800	8	200	S1109
73220357	5	0.209	5.3	0.787	20	47	1200	12	300	S1109
73220358	5	0.209	5.3	0.787	20	63	1600	16	400	S1109
73220359	5	0.209	5.3	0.787	20	79	2000	20	500	S1109
73220360	6	0.213	5.4	0.787	20	16	400	4	100	S1109
73220361	6	0.213	5.4	0.787	20	31	800	8	200	S1109
73220362	6	0.213	5.4	0.787	20	47	1200	12	300	S1109
73220363	6	0.213	5.4	0.787	20	63	1600	16	400	S1109
73220364	6	0.213	5.4	0.787	20	79	2000	20	500	S1109
73220365	7	0.240	6.1	0.827	21	16	400	4	100	S1109
73220366	7	0.240	6.1	0.827	21	31	800	8	200	S1109
73220367	7	0.240	6.1	0.827	21	47	1200	12	300	S1109
73220368	7	0.240	6.1	0.827	21	63	1600	16	400	S1109
73220369	7	0.240	6.1	0.827	21	79	2000	20	500	S1109
73220370	12	0.264	6.7	0.984	25	16	400	4	100	S1111
73220371	12	0.264	6.7	0.984	25	31	800	8	200	S1111
73220372	12	0.264	6.7	0.984	25	47	1200	12	300	S1111
73220373	12	0.264	6.7	0.984	25	63	1600	16	400	S1111
73220374	12	0.264	6.7	0.984	25	79	2000	20	500	S1111
73220375	18	0.335	8.5	1.220	31	16	400	4	100	S1111
73220376	18	0.335	8.5	1.220	31	31	800	8	200	S1111
73220377	18	0.335	8.5	1.220	31	47	1200	12	300	S1111
73220378	18	0.335	8.5	1.220	31	63	1600	16	400	S1111
73220379	18	0.335	8.5	1.220	31	79	2000	20	500	S1111

Custom configurations are available. Utilize the custom cable design form on page 151 or contact your LAPP sales representative.

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section. If not otherwise specified, all values relating to the product are nominal values.

for current information see: www.lappusa.com • www.lappcanada.com

SPIRAL H07BQ-F BLACK

Retractable power supply cable with PUR jacket



SPIRAL H07BQ-F BLACK is a multi-conductor, rubber-insulated, retractable flexible power supply cable with a rugged black polyurethane jacket. It may be used in damp and wet environments, but not submerged.

Recommended applications

Power supply for machine tools, hand tools, cranes, and hoists

Approvals



Cable attributes page 648

OIL	OR-05	FLAME	FR-02
MOTION	FL-02	MECH.	MP-05

Construction

Conductors: finely stranded tinned copper

Insulation: synthetic rubber; dry lubricant

Jacket: specially formulated polyurethane; black

Application advantage

- Resistant to oils, greases, and chemicals
- Weather resistant
- Resistant to mechanical stress
- Special spiral designs are available, see page 151

Complete the installation



SKINTOP® strain relief page 492



EPIC® connectors page 284

Technical data

Length & type of tails:	8 in (200 mm), tangetial 24 in (600 mm), tangential	Conductor stranding:	Class 5 fine wire
Minimum bend radius:	12.5 x cable diameter	Color code:	VDE 0293-308: chart 6, page 681
Temperature range:	-25°C to +50°C	Approvals:	CE & RoHS <HAR> H07BQ-F (unspiralled cable only)* based on VDE 0282-10
Nominal voltage:	450/750V	* <HAR> standards are not met due to the spiralling process. This is a natural and expected occurrence.	
Test voltage:	3000V		

Part number	Number of conductors incl. ground	Nominal outer diameter		Nominal spiral outer diameter		Extended spiral length		Retracted spiral length		Copper weight lbs/100 pcs.	Approx. weight lbs/100 pcs.	SKINTOP® SL PG thread
		in	mm	in	mm	in	mm	in	mm			
16 AWG (1.5 mm²)												
70002750	3	0.355	9.0	1.220	31	59	1500	20	500	46	128	S2111
70002751	3	0.355	9.0	1.220	31	118	3000	39	1000	82	231	S2111
70002752	3	0.355	9.0	1.220	31	177	4500	59	1500	119	266	S2111
70002753	3	0.355	9.0	1.220	31	236	6000	79	2000	155	435	S2111
70002754	4	0.394	10.0	1.496	38	59	1500	20	500	68	182	S2113
70002755	4	0.394	10.0	1.496	38	118	3000	39	1000	121	265	S2113
70002756	4	0.394	10.0	1.496	38	177	4500	59	1500	174	466	S2113
70002757	4	0.394	10.0	1.496	38	236	6000	79	2000	228	485	S2113
70002758	5	0.433	11.0	1.575	40	59	1500	20	500	81	167	S2113
70002759	5	0.433	11.0	1.575	40	118	3000	39	1000	145	309	S2113
70002760	5	0.433	11.0	1.575	40	177	4500	59	1500	207	411	S2113
70002761	5	0.433	11.0	1.575	40	236	6000	79	2000	272	722	S2113

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section. If not otherwise specified, all values relating to the product are nominal values. Photographs are not to scale and are not true representations of the products in question.