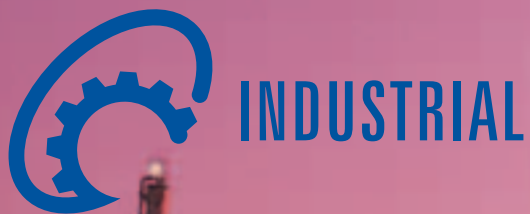


INDUSTRIAL



 **Olex**  
a Nexans company



# World leader in indus

Olex has been designing and manufacturing cables  
in Australia for over half a century delivering  
superior performance in design, quality engineering  
excellence, distribution and customer service.

And now as part of the world's largest cable manufacturer,  
Nexans, Olex are able to provide an even greater range of  
specialised industrial cables for the demanding Australian market.  
New to the Olex industrial offer is the Titanex® range of  
flexible cables to complement the existing Olex range which  
includes Powerlex™, Versolex® and Flexolex®.

# trial cable

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Also new to Olex is a comprehensive range of flexible control and specialist application cables.

This catalogue represents our complete range of industrial cables.

For more information on any of these products, or for information on any other Olex cables, visit [www.olex.com.au](http://www.olex.com.au).

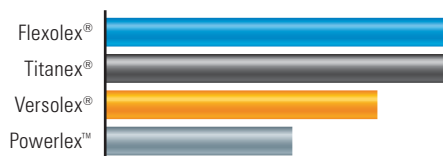


# Flexible Power Cable Selection Criteria



## Flexibility

Doesn't kink. Compact and lightweight for both fixed and flexible applications.



## Operating Temperature

Withstands cold and heat, sustaining flexibility from -40 to +90°C.



## Water Immersion

Permanently submersible. Water and moisture resistant.



## Physical Toughness

Durable and resistant to cut-through, crush and abrasion.



## Oils/Fuels/Solvents

Resistant to a range of common oils and solvents.



## Acids/Bases

Resistant to a range of common acid and alkaline chemicals.



## Heat Environment

Flame retardant. Tested to IEC 60332.1 and AS/NZS 1660.5.6.



## Environmental Exposure

Resistant to ozone and UV.



## Electromagnetic Compatibility

Screened range designed for applications with EMC requirements.

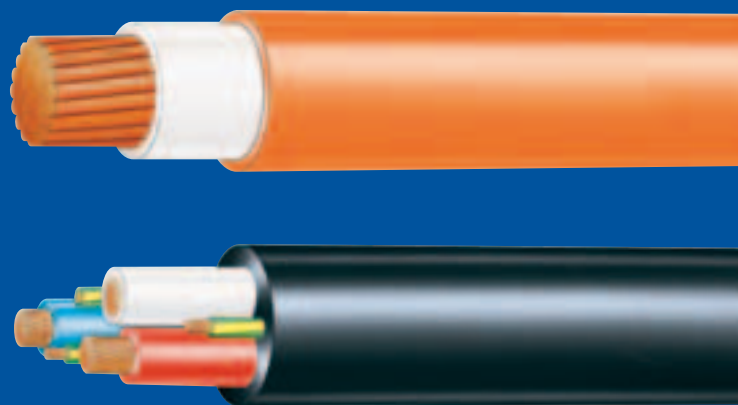
**Note** Selection criteria graphs are a guide only. For further data, please contact the Olex Technical Support on 03 9281 4600.



# Flexible Power

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**Olex offers flexibility in design and flexibility in choice.**

The addition of the Titanex® range of H07 flexible single core and multi-core cables to the Olex range means you can now source the best value solution for any flexible power cable application, all from one supplier.

So whether it be a simple PVC cord or an all purpose rubber flex, Olex has the cable you need.

Now, more than ever, Olex is your flexible power cable specialist.



# Powerlex™ PVC Flexible Cords

## V90 Single Core



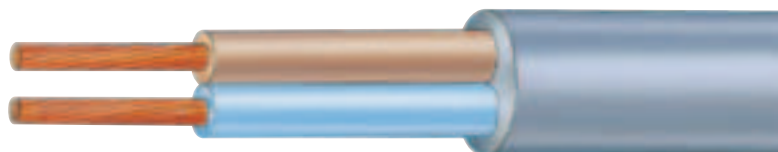
**Construction** 0.6/1kV, PVC insulated, flexible cord to AS/NZS 3191, copper conductors. Maximum 75°C continuous.

Nominal conductor area mm <sup>2</sup>	Average insulation thickness mm	Nominal overall diameter mm	Approximate mass kg/100m	Product code
0.5	0.8	2.6	1.1	BAAR01AA001
0.75	0.8	2.8	1.5	BAAR02AA001
1.0	0.8	3.0	1.7	BAAR03AA001
1.5	0.8	3.2	2	BAAR04AA001
2.5	0.9	3.7	3	BAAR05AA001
4.0	1.0	5.0	6	BAAR06AA001

**Note** V-90HT available.

# Powerlex™ PVC Flexible Cords

## Light Duty 2 and 3 Core



**Construction** 250/250V, PVC insulated, PVC sheathed, flexible cord to AS/NZS 3191 and AS/NZS 60227, copper conductors. Maximum 75°C continuous.

Number of cores	Nominal conductor area mm <sup>2</sup>	Average insulation thickness mm	Average sheath thickness mm	Nominal overall diameter mm	Approx. mass kg/100m	Product code
2 Core	0.75	0.5	0.6	5.7	5	CBER02AA002
3 Core	0.75	0.5	0.6	5.8	6	EBER02AA003

**Standard colours** Refer page 6.

**Technical data** Refer pages 15 and 16.



# Powerlex™ PVC Flexible Cords

## Ordinary Duty 2, 3, 4 & 5 Core



**Construction** 250/440V, PVC insulated, PVC sheathed, flexible cord to AS/NZS 3191 and AS/NZS 60227, copper conductors. Maximum 75°C continuous. Prescribed Article Approval No. V/1017.

Nominal conductor area mm <sup>2</sup>	Average insulation thickness mm	Average sheath thickness mm	Nominal overall diameter mm	Approx. mass kg/100m	Product code
<b>2 Core</b>					
0.75	0.6	0.8	6.3	6	CAHR02AA002
1.0	0.6	0.8	6.6	7	CAHR03AA002
1.5	0.7	0.8	7.6	9	CAHR04AA002
2.5	0.8	1.0	9.4	14	CAHR05AA002
4.0	0.8	1.0	10.5	19	CAHR06AA002
<b>3 Core (2+E)</b>					
0.75	0.6	0.8	6.6	7	EAHR02AA003
1.0	0.6	0.8	7.0	8	EAHR03AA003
1.5	0.7	0.9	8.3	11	EAHR04AA003
2.5	0.8	1.1	10.1	17	EAHR05AA003
4.0	0.8	1.1	11.4	24	EAHR06AA003
<b>4 Core (3+E)</b>					
0.75	0.6	0.8	7.2	8	GAHR02AA004
1.0	0.6	0.9	7.8	10	GAHR03AA004
1.5	0.7	1.0	9.2	14	GAHR04AA004
2.5	0.8	1.1	11.0	21	GAHR05AA004
4.0	0.8	1.1	12.4	29	GAHR06AA004
<b>5 Core (4+E)</b>					
0.75	0.6	0.9	8.1	10	APAR02AA005
1.0	0.6	0.9	8.5	12	APAR03AA005
1.5	0.7	1.1	10.3	17	APAR04AA005
2.5	0.8	1.2	12.3	26	APAR05AA005
4.0	0.8	1.2	13.8	36	APAR06AA005

**Standard colours** Refer page 6.

**Technical data** Refer pages 15 and 16.

# Versolex<sup>®</sup> HD Single Core Power/Welding



**Construction** 0.6/1kV cables, flexible XLPE insulated and TPE sheathed to AS/NZS 5000.1 and AS/NZS 1995, copper conductors. Maximum 90°C continuous.

Nominal conductor area mm <sup>2</sup>	Maximum diameter of wires mm	Nominal overall diameter mm	Approximate mass kg/100m	Product code
10	0.21	8.5	14.0	BDSX01AA001
16	0.21	9.8	20.2	BDSX02AA001
25	0.21	11.3	29.7	BDSX03AA001
35	0.21	12.6	39.5	BDSX04AA001
50	0.31	14.2	53.6	BDSX05AA001
70	0.31	16.2	74.4	BDSX06AA001
95	0.31	18.3	99.3	BDSX07AA001
120	0.51	20.7	125	BDSE87AA001
150	0.51	22.6	150	BDSE88AA001
185	0.51	24.6	179	BDSE89AA001
240	0.51	27.7	240	BDSE90AA001
300	0.51	31.0	290	BDSE91AA001
400	0.51	35.4	389	BDSE92AA001
500	0.51	40.0	498	BDSE93AA001
630	0.51	44.0	629	BDSE94AA001

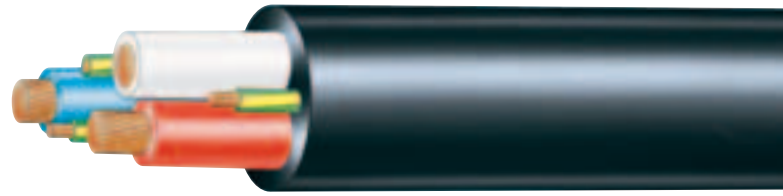
## Standard colours

	Conductor size	Standard sheath colour (metre marked)	Code	Insulation colours	Code
Single Core SDI	All sizes	Orange	OM	Natural	NA
2 Core	≤4 mm <sup>2</sup>	Black	CX	Brown, light blue	JJ
2 Core + Earth	≤4 mm <sup>2</sup>	Black	CX	Brown, light blue, green/yellow	KA
	≥6 mm <sup>2</sup>	Black	CX	Red, black, green/yellow	TD
3 Core + Earth	≤4 mm <sup>2</sup>	Black	CX	Brown, white, light blue, green/yellow	SA
3 Core + 3 Earth	≥6 mm <sup>2</sup>	Black	CX	Red, natural, blue, green/yellow	PF
4 Core + Earth	≤4 mm <sup>2</sup>	Black	CX	Brown, orange, white, light blue, green/yellow	SB
	≥6 mm <sup>2</sup>	Black	CX	Red, natural, blue, black, green/yellow	LR





# Versolex® HD Unscreened Power/Submersible



**Construction** 0.6/1kV cords and cables, flexible XLPE insulated and TPE sheathed to AS/NZS 3191 (cords) and where applicable AS/NZS 5000.1 (cables), copper conductors. Maximum 90°C continuous.

Nominal conductor area mm <sup>2</sup>	Maximum diameter of wires mm	Nominal insulation thickness mm	Nom. sheath thickness mm	Nominal overall diameter mm	Approximate mass kg/100m	Product code
<b>2C</b>						
1	0.21	0.7	1.3	7.9	8	CFGR03AA002
1.5	0.26	0.7	1.5	8.9	10	CFGR04AA002
2.5	0.26	0.7	1.7	10.2	14	CFGR05AA002
4	0.31	0.7	1.8	11.5	19	CFGR06AA002
<b>3C (2C+E)</b>						
1	0.21	0.7	1.4	8.6	9	EFGR03AA003
1.5	0.26	0.7	1.6	9.5	12	EFGR04AA003
2.5	0.26	0.7	1.8	10.9	17	EFGR05AA003
4	0.31	0.7	1.9	12.3	24	EFGR06AA003
6	0.31	0.7	1.8	14.7	32	FEHR07AA003
<b>4C (3C+E or 3C+3E)</b>						
1	0.21	0.7	1.5	9.4	11	GFGR03AA004
1.5	0.26	0.7	1.7	10.5	15	GFGR04AA004
2.5	0.26	0.7	1.9	12.0	21	GFGR05AA004
4	0.31	0.7	2.0	13.5	29	GFGR06AA004
6	0.31	0.7	1.8	14.5	33	FTAR07AA003
10	0.21	0.7	1.8	16.6	48	FTAX01AA003
16	0.21	0.8	1.8	18.9	71	FTAX02AA003
25	0.21	0.9	1.8	22.1	105	FTAX03AA003
35	0.21	0.9	1.8	25.4	144	FTAX04AA003
50	0.31	1.0	1.8	28.2	200	FTAX05AA003
70	0.31	1.1	2.0	33.1	268	FTAX06AA003
95	0.31	1.1	2.2	37.4	363	FTAX07AA003
120	0.51	1.2	2.2	41.3	442	FTAE87AA003
<b>5C (4C+E)</b>						
1	0.21	0.7	1.6	10.6	13	BWBR03AA005
1.5	0.26	0.7	1.8	11.7	17	BWBR04AA005
2.5	0.26	0.7	2.0	13.4	23	BWBR05AA005
4	0.31	0.7	2.2	15.5	34	BWBR06AA005
6	0.31	0.7	1.8	17.5	44	BWBR07AA005
10	0.21	0.7	1.8	19.2	67	BWBX01AA005
16	0.21	0.8	1.8	22.1	97	BWBX02AA005
25	0.21	0.9	1.8	26.8	146	BWBX03AA005
35	0.21	0.9	1.9	31.0	198	BWBX04AA005
50	0.31	1.0	2.1	35.1	276	BWBX05AA005
70	0.31	1.1	2.3	41.0	386	BWBX06AA005

**Standard colours** Refer page 6.

**Technical data** Refer pages 15 and 16.

# Versolex® HD Braid Screen VSD/Submersible



**Construction** 0.6/1kV cables, flexible XLPE insulated, TPE bedded, copper wire braid screened, TPE sheathed to AS/NZS 3191 (cords) and AS/NZS 5000.1 (cables) 3 earths, copper conductors. Maximum 90°C continuous.

## For flexible application

Nominal conductor area mm <sup>2</sup>	Maximum diameter of wires mm	Nominal insulation thickness mm	Combined earth size mm	Nominal diameter under braid mm	Nominal sheath thickness mm	Nominal overall diameter mm	Approximate mass kg/100m	Product code
<b>4C (3C+E or 3C+3E)</b>								
1.5	0.26	0.7	1.5	9.1	1.7	13.9	24	GETR04AA004
2.5	0.26	0.7	2.5	10.2	1.9	15.2	31	GETR05AA004
4	0.31	0.7	4.0	11.6	2.0	17.0	41	GETR06AA004
6	0.31	0.7	4.5	13.8	1.8	18.7	42	FTTR07AA003
10	0.21	0.7	4.5	15.0	1.8	20.0	66	FTTX01AA003
16	0.21	0.8	7.5	17.4	1.8	22.8	96	FTTX02AA003
25	0.21	0.9	12	20.5	1.8	26.0	137	FTTX03AA003
35	0.21	0.9	18	23.2	1.8	28.9	174	FTTX04AA003
50	0.31	1.0	30	27.1	1.8	32.9	237	FTTX05AA003
70	0.31	1.1	30	31.1	2.0	37.6	331	FTTX06AA003
95	0.31	1.1	48	35.2	2.2	41.9	428	FTTX07AA003
120	0.50	1.2	48	40.2	2.2	47.7	526	FTTE87AA003
150	0.50	1.4	75	44.7	2.3	52.5	642	FTTE88AA003
185	0.50	1.6	75	49.7	2.5	57.9	756	FTTE89AA003
240	0.50	1.7	105	55.8	2.7	64.5	988	FTTE90AA003
300	0.50	1.8	150	62.0	2.8	69.7	1206	FTTE91AA003
<b>5C (4C+E)</b>								
1.5	0.26	0.7	—	10.1	1.8	15.1	28	BWTR04AA005
2.5	0.26	0.7	—	11.4	2.0	16.6	36	BWTR05AA005
4	0.31	0.7	—	12.8	2.2	18.4	46	BWTR06AA005
6	0.31	0.7	—	15.6	1.8	21.1	63	BWTR07AA005
10	0.21	0.7	—	17.2	1.8	22.5	83	BWTX01AA005
16	0.21	0.8	—	21.7	1.8	26.4	124	BWTX02AA005
25	0.21	0.9	—	24.9	1.8	30.1	143	BWTX03AA005
35	0.21	0.9	—	28.5	1.9	33.7	247	BWTX04AA005
50	0.31	1.0	—	33.7	2.1	39.9	344	BWTX05AA005
70	0.31	1.1	—	38.4	2.3	43.9	406	BWTX06AA005

**Standard colours** Refer page 6. **Technical data** Refer pages 15 and 16.

## Alco VSD Cable Gland

### Applications

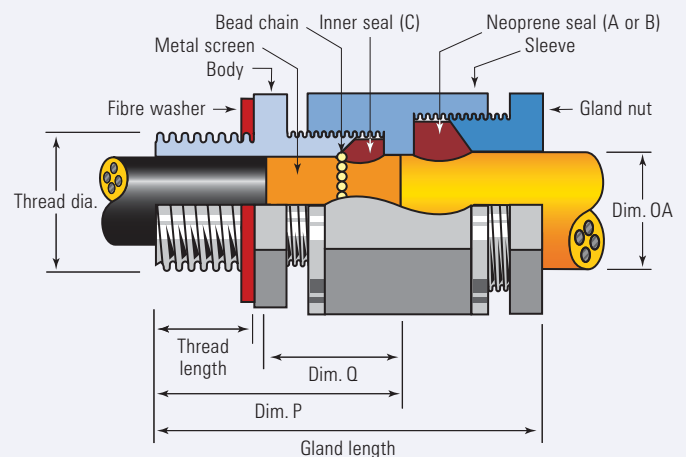
- Fixed (Varolex®) or flexible (Versolex®) cable
- Indoor or outdoor use

### Function

- Provides seal on cable sheath
- Provides contact between screen and earth (body)

### Approvals

- Degree of protection against ingress of water IP66/68 (30m)
- Complies with AS 1939–1990



**Weatherproof gland for tape or braided screened Variable Speed Drive (VSD) cable**

# Varolex® Copper Tape Screened VSD



**Construction** 0.6/1kV cables, XLPE insulated, fixed conductors, laid up with the three earths disposed in interstices of the power cores, PVC bedded, collective copper tape screened and PVC sheathed, complying with AS/NZS 5000.1, copper conductors. Maximum 90°C continuous.

## For fixed application

Power cores Nominal conductor area mm <sup>2</sup>	Nominal insulation thickness mm	Combined earth size mm	Nominal diameter under screen mm	Nominal overall diameter mm	Approximate mass kg/100m	Product code
2.5	0.7	2.5*	10.8	14.5	33	FTDP07AA003
4	0.7	4.5	12.8	16.5	41	FTDP09AA003
6	0.7	4.5	13.7	17.4	49	FTDP11AA003
10	0.7	4.5	14.7	18.4	62	FTDP13AA003
16	0.7	7.5	16.7	20.3	86	FTDP15AA003
25	0.9	12	19.2	22.8	122	FTDC17AA003
35	0.9	18	22.0	25.6	162	FTDC18AA003
50	1.0	30	25.2	28.8	215	FTDC19AA003
70	1.1	30	28.5	32.1	280	FTDC20AA003
95	1.1	48	33.2	36.9	385	FTDC22AA003
120	1.2	48	38.3	42.0	465	FTDP23AA003
150	1.4	75	42.0	45.8	582	FTDP24AA003
185	1.6	75	46.8	50.8	703	FTDP25AA003
240	1.7	105	52.9	57.2	915	FTDP26AA003
300	1.8	150	58.8	63.5	1153	FTDP27AA003

\*Split earth not required, therefore a single earth conductor is utilised.

## Standard colours

Power cores: Red, White, Blue. Earth cores: Green/Yellow. Sheath: Black.

**Electrical data** AS/NZS 3008.1.

**Current ratings** AS/NZS 3008.1.

## Alco gland selection chart

Item number	Mounting thread diameter × length mm	Tightening torque Nm	Diameter across flats mm	Gland length uncompressed mm	compressed mm	Cable details Varolex® product code	Versolex® 4C product code	Versolex® 5C product code	PVC shroud (orange) ALCSG2
ALCEMC16	M16 × 12	9	27.5	58	43	FTDP07,P09	GETR04,R05,R06	BWTR04,R05	ALCSG2
ALCEMC20	M20 × 12	13	32.5	58	43	FTDP11*P13,P15	FTTR07,X01	BWTR07	ALCSG3
ALCEMC25	M25 × 12	21	37.5	61	45	FTDC17,C18	FTTX02,X03	BWTX01,X02	ALCSG3
ALCEMC32	M32 × 12	34	37.5	62	46	FTDC19,C20	FTTX04,X05	BWTX03,X04	ALCSG5
ALCEMC40	M40 × 15	53	47.5	72	54	FTDC22	FTTX06,X07	BWTX05	ALCSG6
ALCEMC50	M50 × 15	83	57.5	80	60	FTDP23,P24	FTTE87	BWTX06	ALCSG7
ALCEMC63	M63 × 19	132	70	96	75	FTDP25	FTTE88		
ALCEMC75A	M75 × 19	188	85	105	80	FTDP26	FTTE89		
ALCEMC75B	M75 × 19	188	85	111	83				

# Titanex® H07RN-F

## Single Core



**Construction** 0.6/1kV cables, cross-linked synthetic EPR rubber insulated and sheathed, lead free. Copper conductors to DIN VDE 0295 class 5. Core identification to HD 308 S2.

**Application** Titanex® flexible cable is intended for installations with moving equipment, electric appliances and for building sites. This cable can be installed in open air or buried (with extra mechanical protection).

Cross section mm <sup>2</sup>	Perm. Current rating open air A	Min. outer diameter mm	Max. outer diameter mm	Approx. weight kg/km	Product code
6	56	7.9	9.8	109	HAR1X6
10	77	9.5	11.9	182	HAR1X10
16	102	10.8	13.4	256	HAR1X16
25	136	12.7	15.8	369	HAR1X25
35	168	14.3	17.9	482	HAR1X35
50	203	16.5	20.6	662	HAR1X50
70	254	18.6	23.3	895	HAR1X70
95	315	20.8	26.0	1164	HAR1X95
120	363	22.8	28.6	1430	HAR1X120
150	416	25.2	31.4	1740	HAR1X150
185	475	27.6	34.4	2160	HAR1X185
240	559	30.6	38.3	2730	HAR1X240
300	637	33.5	41.9	3480	HAR1X300

### Cores identifications

1 core: Black (preferential)
2 cores: Brown + Blue
3 cores: Green/Yellow + Blue + Brown (G) Brown + Black + Grey (X S > 4mm <sup>2</sup> ) Blue + Brown + Black (X S 1.5 & 2.5mm <sup>2</sup> )
4 cores: Green/Yellow + Brown + Black + Grey (G) Blue + Brown + Black + Grey (X S 1.5 & 2.5mm <sup>2</sup> )
5 cores: Green/Yellow + Blue + Brown + Black + Grey
> 5 cores: 1 Green/Yellow + the other Black (numbered)

### Marking

USE <HAR> H07RN-F  
Nb X (ou G) S  
TITANEX  
X = without G/Y  
G = with G/Y  
S = cross section (mm<sup>2</sup>)

### Standards

**International** IEC 60245-4 type 66

**Europe CENELEC** HD 22-4

**National** NF C 32-102-4



**Note** Other sizes available upon request.

# Titanex® H07RN-F

## Multi Core



**Construction** 0.6/1kV cables, cross-linked synthetic EPR rubber insulated and sheathed, lead free. Copper conductors to DIN VDE 0295 class 5. Core identification to HD 308 S2.

**Application** Titanex® flexible cable is intended for installations with moving equipment, electric appliances and for building sites. This cable can be installed in open air or buried (with extra mechanical protection).

No. cores & cross-sec. mm <sup>2</sup>	Perm. Current rating open air A	Min. outer diameter mm	Max. outer diameter mm	Approx. weight kg/km	Product code
<b>2C</b>					
1	18	7.7	10.0	99	HAR2X1
1.5	23	8.5	11.0	111	HAR2X1.5
2.5	32	10.2	13.1	161	HAR2X2.5
<b>2C+E</b>					
1	18	8.3	10.7	117	HAR3G1
1.5	23	9.2	11.9	134	HAR3G1.5
2.5	32	10.9	14.0	195	HAR3G2.5
4	43	12.7	16.2	290	HAR3G4
6	56	14.1	18.0	346	HAR3G6
<b>3C+E</b>					
1	16	9.6	12.0	144	HAR4G1
1.5	21	10.2	13.1	165	HAR4G1.5
2.5	29	12.5	15.5	245	HAR4G2.5
4	38	14.0	18.0	357	HAR4G4
6	50	15.7	20.0	443	HAR4G6
10	68	20.8	26.5	818	HAR4G10
16	92	23.8	30.1	1150	HAR4G16
25	122	28.9	36.6	1700	HAR4G25
35	150	32.5	41.1	2180	HAR4G35
50	182	37.7	47.5	3030	HAR4G50
70	232	42.7	54.0	3990	HAR4G70
95	281	48.4	61.0	5360	HAR4G95
120	325	53.0	66.0	6500	HAR4G120
<b>4C+E</b>					
1.5	21	11.2	14.4	238	HAR5G1.5
2.5	29	13.3	17.0	297	HAR5G2.5
4	38	15.6	19.9	453	HAR5G4
6	50	17.5	22.2	557	HAR5G6
10	68	22.9	29.1	1001	HAR5G10
16	92	26.4	33.3	1430	HAR5G16
25	122	32.0	40.4	2096	HAR5G25
35	168	35.8	45.1	2770	HAR5G35
<b>6C+E</b>					
1.5	15	14.7	18.7	365	HAR7G1.5
2.5	21	17.1	22.0	490	HAR7G2.5
<b>11C+E</b>					
1.5	11	17.6	22.1	510	HAR12G1.5
2.5	15	20.6	26.2	676	HAR12G2.5
<b>18C+E</b>					
1.5	9	20.9	26.5	765	HAR19G1.5
<b>26C+E</b>					
1.5	7	24.9	31.5	1015	HAR27G1.5
<b>35C+E</b>					
2.5	9	33.2	41.8	1862	HAR36G2.5

**Note** Other sizes available upon request.



# Flexolex® HD 2, 3, 4 & 5 Core Cords/Cables, Unscreened



**Construction** 0.6/1kV EPR insulated and CPE sheathed heavy duty flexible cords to AS/NZS 3191 and AS/NZS 60245.3, with bunched tinned copper conductors. Class 5 to AS/NZS 1125 and IEC 60228. Maximum 90°C continuous.

## Cords

Nominal conductor area mm <sup>2</sup>	Maximum wire size mm	Thickness of insulation mm	Thickness of sheath mm	Nominal overall diameter mm	Approximate mass kg/100m	Product code
<b>3 Core (2+E)</b>						
0.75	0.21	0.8	1.4	8.8	11	RDER52AA003
1.0	0.21	0.8	1.4	9.1	12	RDER53AA003
1.5	0.26	0.8	1.6	10.1	15	RDER54AA003
2.5	0.26	0.9	1.8	12.0	22	RDER55AA003
4.0	0.31	1.0	1.9	13.9	31	RDER56AA003
<b>4 Core (3+E)</b>						
1.5	0.26	0.8	1.7	11.2	19	RDER54AA004
2.5	0.26	0.9	1.9	13.2	27	RDER55AA004
4.0	0.31	1.0	2.0	15.3	39	RDER56AA004
<b>5 Core (4+E)</b>						
1.5	0.26	0.8	1.8	12.3	23	RDER54AA005
2.5	0.26	0.9	2.0	14.5	33	RDER55AA005
4.0	0.31	1.0	2.2	17.0	48	RDER56AA005

## Cables

Nominal conductor area mm <sup>2</sup>	Maximum wire size mm	Thickness of insulation mm	Thickness of sheath mm	Nominal overall diameter mm	Approximate mass kg/100m	Product code
<b>4 Core (3+E)</b>						
6	0.31	1.0	2.2	17.9	55	RDHR57AA004
10	0.41	1.2	3.4	24.4	97	RDHR58AA004
16	0.41	1.2	3.6	27.4	135	RDHR59AA004
25	0.41	1.4	4.0	32.9	204	RDHR60AA004
35	0.41	1.4	4.3	37.0	265	RDHR61AA004
50	0.41	1.6	4.8	42.7	352	RDHR62AA004
70	0.68	1.6	5.2	48.4	478	RDHR63AA004
95	0.68	1.8	5.7	54.2	593	RDHR64AA004
120	0.68	1.8	6.1	60.1	745	RDHR65AA004
<b>5 Core (4+E)</b>						
6	0.31	1.0	2.4	19.9	68	RDHR57AA005
10	0.41	1.2	3.6	26.8	118	RDHR58AA005
16	0.41	1.2	3.8	30.2	164	RDHR59AA005
25	0.41	1.4	4.3	36.4	251	RDHR60AA005
35	0.41	1.4	4.6	40.6	322	RDHR61AA005
50	0.41	1.6	5.1	47.2	431	RDHR62AA005



# Flexolex® HD-S 4 & 5 Core Cords/Cables, Screened



**Construction** 0.6/1kV EPR insulated, EPR bedded, collectively screened and CPE sheathed heavy duty flexible cords to AS/NZS 3191 and AS/NZS 60245.3 where applicable, with bunched tinned copper conductors class 5 to AS/NZS 1125 and IEC 60228 and tinned copper braid screen. Maximum 90°C continuous.

## Cords

Nominal conductor area	Maximum wire size	Thickness of insulation	Thickness of bedding	Thickness of sheath	Nominal diameter under screen	overall	Approximate mass	Product code
mm <sup>2</sup>	mm	mm	mm	mm	mm	mm	kg/100m	
<b>4 Core (3+E)</b>								
1.5	0.26	0.8	1.0	1.8	9.7	14.7	30	RDLR54AA004
2.5	0.26	0.9	1.0	1.9	11.3	16.5	40	RDLR55AA004
4.0	0.31	1.0	1.0	2.2	13.2	19.0	54	RDLR56AA004
<b>5 Core (4+E)</b>								
1.5	0.26	0.8	1.0	1.9	10.6	15.8	35	RDLR54AA005
2.5	0.26	0.9	1.0	2.1	12.4	18.0	48	RDLR55AA005
4.0	0.31	1.0	1.0	2.3	14.5	20.5	64	RDLR56AA005

## Cables

Nominal conductor area	Maximum wire size	Thickness of insulation	Thickness of bedding	Thickness of sheath	Nominal diameter under screen	overall	Approximate mass	Product code
mm <sup>2</sup>	mm	mm	mm	mm	mm	mm	kg/100m	
<b>4 Core (3+E)</b>								
6	0.31	1.0	1.0	2.4	15.3	21.8	76	RDXR57AA004
10	0.41	1.2	1.0	3.5	19.2	28.4	126	RDXR58AA004
16	0.41	1.2	1.0	3.8	21.8	31.6	168	RDXR59AA004
25	0.41	1.4	1.0	4.2	26.4	36.7	240	RDXR60AA004
35	0.41	1.4	1.0	4.5	29.6	40.5	302	RDXR61AA004
50	0.41	1.6	1.2	4.9	34.6	46.3	395	RDXR62AA004
<b>5 Core (4+E)</b>								
6	0.31	1.0	1.0	2.6	16.9	23.9	92	RDXR57AA005
10	0.41	1.2	1.0	3.7	21.2	30.8	150	RDXR58AA005
16	0.41	1.2	1.0	4.0	24.2	34.4	201	RDXR59AA005
25	0.41	1.4	1.0	4.4	29.3	40.1	290	RDXR60AA005
35	0.41	1.4	1.2	4.8	33.2	44.8	370	RDXR61AA005
50	0.41	1.6	1.2	5.3	38.4	51.0	480	RDXR62AA005

## Flexolex® Cords

### Standard core colours

2 Core: Brown, Blue.

3 Core: Brown, Blue, Green/Yellow.

4 Core: Brown, Black, Blue, Green/Yellow.

5 Core: Brown, Black, White, Blue, Green/Yellow.

(Other colours available upon request, subject to minimum ordering quantities.)

## Flexolex® Cables

### Standard core colours

3 Core+3 Earths: Red, White, Blue and 3 × Green/Yellow.

4 Core: Red, White, Blue, Green/Yellow.

5 Core: Red, White, Blue, Black, Green/Yellow.



# Flexolex® SP Single Core Power & Welding Cables



**Construction** 0.6/1kV CPE composite insulated and protected flexible cable to AS/NZS 1995 and AS/NZS 5000.1 where applicable, with taped multiple stranded plain copper conductors. Maximum 90°C continuous.

**Application** Designed suitable not only as a welding flexible but also for LV mains connected equipment (e.g. switchgear), internal wiring or open jumper leads in restricted access areas requiring flexible connections.

Nominal conductor area mm <sup>2</sup>	Maximum wire size mm	Nominal conductor diameter mm	Thickness of insul./protec. covering mm	Nominal overall diameter mm	Approx. mass kg/100m	Product code
10	0.21	4.5	2.0	8.9	6.5	RDWX01AA001
16	0.21	5.7	2.0	10.1	23	RDWX02AA001
25	0.21	6.5	2.0	10.9	32	RDWX03AA001
35	0.21	7.8	2.0	12.2	42	RDWX04AA001
50	0.21	9.6	2.2	14.4	60	RDWX05AA001
70	0.21	11.7	2.4	16.9	83	RDWX06AA001
95	0.21	13.7	2.6	19.4	109	RDWX07AA001
120	0.51	15.2	2.8	21.3	136	RDWX08AA001
150	0.51	16.5	3.0	23.1	168	RDWX09AA001
185	0.51	19.4	3.2	26.4	211	RDWX10AA001
240	0.51	22.9	3.4	30.3	266	RDWX11AA001

Other sizes are available upon request, subject to minimum ordering quantities.

## Standard colour

Black (other colours are available upon request, subject to minimum ordering quantities).

## Additional data

For further data and recommendations see pages 15 and 16.









# Technical Data

## Flexible Conductors

### Current carrying capacity

#### Versolex® single core cables

Conductor area mm <sup>2</sup>	Unenclosed Spaced 	Spaced 	Spaced from surface 	Touching 	Three phase voltage drop	
	A	A	A	A	Trefoil  mV/A.m	Laid flat  mV/A.m
10	92	80	69	65	4.22	4.22
16	120	105	92	86	2.68	2.68
25	160	140	120	115	1.73	1.73
35	200	175	150	140	1.23	1.24
50	250	225	190	180	0.868	0.873
70	315	285	240	225	0.621	0.628
95	375	340	290	270	0.480	0.489
120	445	405	345	325	0.386	0.397
150	510	470	400	375	0.322	0.335
185	590	540	460	425	0.277	0.291
240	710	650	550	510	0.229	0.246
300	810	750	640	590	0.203	0.222
400	980	910	760	710	0.179	0.200
500	1140	1060	880	820	0.165	0.188
630	1340	1260	1030	960	0.155	0.178





### Current carrying capacity

#### Flexible cords

Nominal conductor area mm <sup>2</sup>	Current carrying capacity A	Voltage drop 1 phase mV/A.m	Voltage drop 3 phase mV/A.m
0.75	7.5	63.3	54.8
1.0	10	47.5	41.1
1.5	15	32.3	28.0
2.5	20	19.4	16.8
4.0	25	12.0	10.4

### Current carrying capacity

#### Flexible installation

Nominal conductor area mm <sup>2</sup>	Single phase Protected from sun 	Exposed to sun 	Three phase Protected from sun 	Exposed to sun 
	A	A	A	A
6	54	43	46	37
10	74	58	63	50
16	99	77	85	66
25	135	105	115	88
35	165	125	140	105
50	195	145	165	125
70	250	185	215	155
95	290	210	250	180
120	340	245	290	210

### Current carrying capacity

#### Versolex® in Fixed installation

Conductor area mm <sup>2</sup>	Unenclosed Spaced A	Unenclosed Touching A	Voltage drop mV/a.m
<b>Single Phase (2 Core)</b>			
1	19	18	49.8
1.5	24	22	34.0
2.5	33	30	20.3
4	43	41	12.6
6	55	51	8.42
<b>Three Phase (3 and 4 Core)</b>			
1	17	15	43.1
1.5	20	19	29.4
2.5	27	25	17.6
4	37	34	10.9
6	46	43	7.29
10	65	61	4.38
16	86	81	2.68
25	115	105	1.62
35	140	130	1.19
50	180	170	0.902
70	230	215	0.608
95	275	255	0.485
120	320	295	0.387

### Welding Cables current ratings: Versolex® & Flexolex®

Nominal cond. area mm <sup>2</sup>	Current ratings for 5 minute period duty cycle			
	Maximum duty cycle (AS 1966) Continuous 100%	Heavy 60%	Light industrial 30%	Limited input 25%
10	90	96	114	121
16	125	137	169	181
25	165	188	239	257
35	205	238	309	334
50	260	308	407	440
70	325	391	523	567
95	390	476	644	700
120	455	559	762	829
150	535	661	904	985
185	600	747	1027	1120
240	715	895	1236	1348

# Technical Data

## Flexible Conductors

### Conductor resistances

For the range of conductors covered in this catalogue.

Nominal conductor area mm <sup>2</sup>	Max. DC resistance at 20°C (AS 1125)	
	Plain Ω/km	Tinned Ω/km
<b>Flexible Cords and Cables other than Type SP</b>		
0.50	39.0	40.1
0.75	26.0	26.7
1.0	19.5	20.0
1.5	13.3	13.7
2.5	7.98	8.21
4	4.95	5.09
6	3.30	3.39
10	1.91	2.02
16	1.21	1.24
25	0.780	0.795
35	0.554	0.565
50	0.386	0.393
70	0.272	0.277
95	0.206	0.210
120	0.161	0.164
150	0.129	0.132
185	0.106	0.108
240	0.0801	0.0817
300	0.0641	
400	0.0486	
500	0.0384	
630	0.0287	

### Conversion mm<sup>2</sup> to AWG

mm <sup>2</sup>	AWG	mm <sup>2</sup>	AWG
0.05	30	16	6
0.08	28	25	4
0.14	26	35	2
0.25	24	50	1/0
0.34	22	70	2/0
0.38	21	95	3/0
0.5	20	120	4/0
0.75	18	150	300MCM
1	17	185	350MCM
1.5	16	240	500MCM
2.5	14	300	600MCM
4	12	400	800MCM
6	10	500	1000MCM
10	8		

### Recommendations

The minimum bending radius or maximum pulling tension (and the like) a cable can withstand without detriment are subject to site variations such as speed of bending or rate of application of tension.

To guard against damage and to ensure reasonable cable life, the following are the Olex recommendations:

#### Minimum bending radii

Expressed in multiples of the cable overall diameter, D, following are minimum recommended:

- (a) Fixed (not subject to flexing) . . . . . 4 D
- (b) Free flexing (not under tension) . . . . . 6 D
- (c) Repetitive reeling (on/off drum) <sup>(1)</sup> . . . . . 10 D
- (d) Festoon (hangers) at cable saddles . . . . . 5 D

#### Maximum working tension

When a flexible cable is repetitively reeled, or pulled by a mobile machine (powered by the cable), the maximum working tension on cable at any time of an operating cycle, determined as a function of the total main conductor cross-sectional area in the cable, should not exceed the following recommended safe values:

- (a) Multicore control cables . . . . . 15 N/mm<sup>2</sup>
- (b) Power cables <sup>(2)</sup> . . . . . 20 N/mm<sup>2</sup>

### Notes

- 1 Where reeling of cables involves forced guiding (directional changes, e.g. with cable axis changing from right angle to parallel to the drum axis, or in-between, or where the cable is subjected to an 'S' bend), the straight section of cable between two adjacent bending points at sheaves or rollers shall be not less than 20D.
- 2 Any control core components or reduced size conductors (e.g. earth, pilot) located in the interstices of the laid-up core assembly or any screens are not to be included in the calculations.







# Flexible Control and Specialist Applications

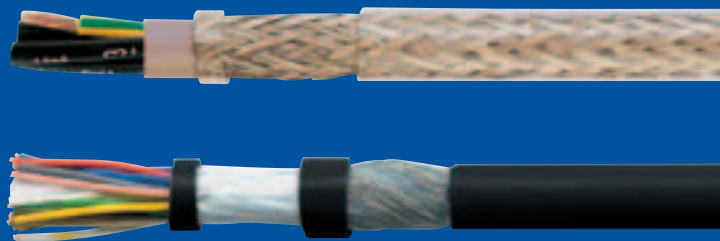
Needing to push, pull, pick, place, lift, reel,  
submerge, weld, pack, transport, measure,  
inform or control more than ever?

Now, as a Nexans company, Olex has access to the world's largest  
cable range, enabling us to provide more cables and more solutions  
to meet your ever increasing industrial cable demands.

Our new range of products includes cables for festoon systems,  
cranes, reeling, locomotives and rolling stock, which complement  
our existing range of control, high temperature, drag chain and  
BUS cables. With Olex and Nexans you will stay in control.

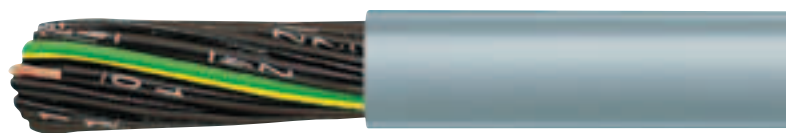
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# Rheyflex Y

## PVC Flexible Control Cable



**Construction** 300/500V cables, flexible PVC insulated and PVC sheathed to DIN VDE 0281 part 1 and HD 21.1, PVC self extinguishing and flame retardant to test method B IEC 60332-1, copper conductors to DIN VDE 0295 class 5 and IEC 60228 class 5, flexing  $-5^{\circ}\text{C}$  to  $80^{\circ}\text{C}$ , fixed  $-40^{\circ}\text{C}$  to  $80^{\circ}\text{C}$ . Minimum bending radius  $7.5 \times$  cable o.d.

**Application** These cables are designed for flexible use involving medium mechanical stresses with free movement in dry, moist and wet rooms, as measuring and control cables in tool machines, conveyor belts and production lines in machinery production, in air conditioning and steel production. Not suitable for open air applications.

No. cores & cross-sec. mm <sup>2</sup>	Nominal diameter mm	Approx. mass kg/km	Product code
<b>2C</b>			
0.5	4.8	40	CC2X0.5
0.75	5.2	46	CC2X0.75
1	5.5	60	CC2X1
1.5	6.3	70	CC2X1.5
2.5	7.6	112	CC2X2.5
4	9.2	195	CC2X4
<b>2C+E</b>			
0.5	5.1	46	CC3G0.5
0.75	5.5	54	CC3G0.75
1	6	72	CC3G1
1.5	6.7	90	CC3G1.5
2.5	8.3	148	CC3G2.5
4	9.9	230	CC3G4
6	11.7	355	CC3G6
10	15	540	CC3G10
<b>3C</b>			
0.5	5.1	46	CC3X0.5
0.75	5.5	54	CC3X0.75
1	6	72	CC3X1
1.5	6.7	90	CC3X1.5
2.5	8.3	148	CC3X2.5
<b>3C+E</b>			
0.5	5.7	56	CC4G0.5
0.75	6.2	66	CC4G0.75
1	6.6	86	CC4G1
1.5	7.3	109	CC4G1.5
2.5	9.1	178	CC4G2.5
4	11	295	CC4G4
6	13	424	CC4G6
10	16.8	701	CC4G10
<b>4C</b>			
0.5	5.7	56	CC4X0.5
0.75	6.2	66	CC4X0.75
1	6.6	86	CC4X1
1.5	7.3	109	CC4X1.5
2.5	9.1	178	CC4X2.5
<b>4C+E</b>			
0.5	6.2	65	CC5G0.5
0.75	6.8	80	CC5G0.75
1	7.2	104	CC5G1
1.5	8.2	131	CC5G1.5
2.5	10.2	221	CC5G2.5
4	12.1	361	CC5G4
6	14.5	525	CC5G6
10	18.7	858	CC5G10
<b>5C</b>			
0.5	6.2	65	CC5X0.5
0.75	6.8	80	CC5X0.75
1	7.2	104	CC5X1
1.5	8.2	131	CC5X1.5
2.5	10.2	221	CC5X2.5

No. cores & cross-sec. mm <sup>2</sup>	Nominal diameter mm	Approx. mass kg/km	Product code
<b>6C+E</b>			
0.5	7.4	80	CC7G0.5
0.75	8.1	110	CC7G0.75
1	8.6	141	CC7G1
1.5	9.8	184	CC7G1.5
2.5	12.1	306	CC7G2.5
4	13.3	458	CC7G4
6	16	625	CC7G6
<b>11C+E</b>			
0.5	9.1	135	CC12G0.5
0.75	9.9	179	CC12G0.75
1	10.7	230	CC12G1
1.5	12.1	309	CC12G1.5
2.5	15.2	498	CC12G2.5
<b>17C+E</b>			
0.5	10.7	196	CC18G0.5
0.75	11.9	257	CC18G0.75
1	12.7	343	CC18G1
1.5	14.5	440	CC18G1.5
2.5	18.1	764	CC18G2.5
<b>24C+E</b>			
0.5	13	270	CC25G0.5
0.75	14.5	365	CC25G0.75
1	15.6	485	CC25G1
1.5	17.8	620	CC25G1.5
2.5	22.2	1044	CC25G2.5
<b>41C+E</b>			
0.5	15.8	449	CC42G0.5
0.75	17.6	612	CC42G0.75
1	18.9	810	CC42G1
1.5	21.4	1007	CC42G1.5
2.5	27.2	1790	CC42G2.5
<b>64C+E</b>			
0.5	19.4	682	CC65G0.5
0.75	21.5	895	CC65G0.75
1	22.8	1180	CC65G1
1.5	26	1602	CC65G1.5

G = with green-yellow earth core.

X = without green-yellow earth core (OZ).

**Note** Black cores with continuous white numbering according to DIN VDE 0293. Other configurations available upon request.

# Rheyflex YCY

## PVC–EMC Flexible Control Cable



**Construction** 300/500V cables to 1.5mm & 450/750V at 2.5mm & above, flexible PVC insulated, tinned copper braided with transparent PVC sheath, copper conductors to DIN VDE 0295 class 5, flexing –5°C to 80°C, fixed –40°C to 80°C. Cores available in either black with white numbering or coloured cores. Minimum bending radius 10 × cable o.d.

**Application** For use as a data and control cable in machinery, computer systems etc. as well as a signal cable for electronics. The high level of screening ensures a high degree of interference protection. The screening density assures disturbance free transmission of all signals and impulses.

No. cores & cross-sec. mm <sup>2</sup>	Nominal diameter mm	Approx. mass kg/km	Product code
<b>2C</b>			
0.5	6.9	67	CY2X0.5
0.75	7.6	87	CY2X0.75
1	7.9	97	CY2X1
1.5	8.4	130	CY2X1.5
2.5	10	180	CY2X2.5
<b>2C + E</b>			
0.5	7.2	83	CY3G0.5
0.75	7.8	98	CY3G0.75
1	8.2	103	CY3G1
1.5	9	152	CY3G1.5
2.5	10.7	216	CY3G2.5
4	12.3	340	CY3G4
6	14.2	450	CY3G6
<b>3C + E</b>			
0.5	7.8	94	CY4G0.5
0.75	8.3	113	CY4G0.75
1	8.9	146	CY4G1
1.5	9.6	168	CY4G1.5
2.5	11.4	267	CY4G2.5
4	13.4	410	CY4G4
6	15.6	559	CY4G6
<b>4C + E</b>			
0.5	8.3	108	CY5G0.5
0.75	9.1	130	CY5G0.75
1	9.5	169	CY5G1
1.5	10.5	202	CY5G1.5
2.5	12.5	347	CY5G2.5
4	14.8	502	CY5G4
6	17	702	CY5G6
<b>6C + E</b>			
0.5	9.5	136	CY7G0.5
0.75	10.4	184	CY7G0.75
1	11	219	CY7G1
1.5	12.1	304	CY7G1.5
2.5	15	407	CY7G2.5
4	16.2	638	CY7G4
6	18.7	907	CY7G6
<b>11C + E</b>			
0.5	11.3	195	CY12G0.5
0.75	12.5	292	CY12G0.75
1	13.1	350	CY12G1
1.5	14.9	434	CY12G1.5
2.5	18	722	CY12G2.5
<b>17C + E</b>			
0.5	13.1	277	CY18G0.5
0.75	14.3	358	CY18G0.75
1	15.4	514	CY18G1
<b>24C + E</b>			
0.5	15.7	407	CY25G0.5
0.75	17.4	508	CY25G0.75
1	18.3	689	CY25G1

No. cores & cross-sec. mm <sup>2</sup>	Nominal diameter mm	Approx. mass kg/km	Product code
<b>40C + E</b>			
0.5	19	671	CY41G0.5
0.75	21.2	971	CY41G0.75
1	22.1	1092	CY41G1
<b>60C + E</b>			
0.5	22.9	850	CY61G0.5
0.75	25	1290	CY61G0.75
1	26.2	1370	CY61G1
<b>Coloured Cores</b>			
<b>2C + E</b>			
1	8.2	103	CY3G1JB
1.5	9	152	CY3G1.5JB
2.5	10.7	216	CY3G2.5JB
4	12.3	340	CY3G4JB
6	14.2	450	CY3G6JB
10	17.8	750	CY3G10JB
<b>3C + E</b>			
1	8.9	146	CY4G1JB
1.5	9.6	168	CY4G1.5JB
2.5	11.4	267	CY4G2.5JB
4	13.4	410	CY4G4JB
6	15.6	559	CY4G6JB
10	19.7	1020	CY4G10JB
16	22.6	1380	CY4G16JB
25	28.9	1890	CY4G25JB
35	32.2	2390	CY4G35JB
50	38.2	3315	CY4G50JB
70	46.8	4600	CY4G70JB
95	51	6060	CY4G95JB
120	56	7315	CY4G120JB
150	63.5	9340	CY4G150JB
185	68	11120	CY4G185JB
<b>4C + E</b>			
1	9.5	169	CY5G1JB
1.5	10.5	202	CY5G1.5JB
2.5	12.5	347	CY5G2.5JB
4	14.8	502	CY5G4JB
6	17	702	CY5G6JB
10	21.6	1115	CY5G10JB
16	25.2	1553	CY5G16JB
25	31.8	2270	CY5G25JB
35	36.4	2885	CY5G35JB
50	43	4150	CY5G50JB

G = with green-yellow earth core.

X = without green-yellow earth core (OZ).

JB = coloured cores.

**Note** Black cores with continuous white numbering according to DIN VDE 0293.

# PVC Flexible Drag Chain Cable



**Construction** 300/500V cables, flexible PVC insulated and PVC sheathed to DIN VDE 0281 part 1 and HD 21.1, PVC self extinguishing and flame retardant to test method B IEC 60332-1, copper conductors to DIN VDE 0295 class 6 and IEC 60228 class 6, flexing  $-5^{\circ}\text{C}$  to  $80^{\circ}\text{C}$ , fixed  $-40^{\circ}\text{C}$  to  $80^{\circ}\text{C}$ . Minimum bending radius  $7.5 \times$  cable o.d.

**Application** Drag chain cables are ideal for use in the machine tool industry, in robotics and machine production and anywhere high flexibility is essential. These cables have shown excellent performance in cable chain systems. Suitable for flexible use for medium mechanical stresses with free movements.

No. cores & cross-sec. mm <sup>2</sup>	Nominal diameter mm	Approx. mass kg/km	Product code
<b>2C</b>			
0.5	5	46	HF2X0.5
0.75	5.4	58	HF2X0.75
1	5.7	65	HF2X1
1.5	6.4	91	HF2X1.5
2.5	7.7	130	HF2X2.5
<b>2C+E</b>			
0.5	5.3	57	HF3G0.5
0.75	5.7	73	HF3G0.75
1	6	84	HF3G1
1.5	6.8	117	HF3G1.5
2.5	8.4	160	HF3G2.5
4	10.4	221	HF3G4
<b>3+E</b>			
0.5	5.7	70	HF4G0.5
0.75	6.4	77	HF4G0.75
1	6.8	113	HF4G1
1.5	7.4	147	HF4G1.5
2.5	9.1	200	HF4G2.5
4	11.4	260	HF4G4
6	13.3	392	HF4G6
10	17.7	642	HF4G10
<b>4C+E</b>			
0.5	6.4	93	HF5G0.5
0.75	7	119	HF5G0.75
1	7.4	137	HF5G1
1.5	8.3	181	HF5G1.5
2.5	10.2	269	HF5G2.5
4	12.7	318	HF5G4
6	14.5	481	HF5G6
10	19.7	780	HF5G10
<b>6C+E</b>			
0.5	7.5	127	HF7G0.5
0.75	8.3	165	HF7G0.75
1	8.8	192	HF7G1
1.5	9.9	273	HF7G1.5
2.5	12.2	357	HF7G2.5

G = with green-yellow earth core.

X = without green-yellow earth core (OZ).

**Note** Black cores with continuous white numbering according to DIN VDE 0293.

No. cores & cross-sec. mm <sup>2</sup>	Nominal diameter mm	Approx. mass kg/km	Product code
<b>11C+E</b>			
0.5	9.2	177	HF12G0.5
0.75	10.2	247	HF12G0.75
1	10.8	295	HF12G1
1.5	12.1	391	HF12G1.5
2.5	15.2	572	HF12G2.5
<b>17C+E</b>			
0.5	11.1	284	HF18G0.5
0.75	12.1	356	HF18G0.75
1	13	420	HF18G1
1.5	14.5	590	HF18G1.5
2.5	18.1	800	HF18G2.5
<b>24C+E</b>			
0.5	13.4	363	HF25G0.5
0.75	14.9	498	HF25G0.75
1	15.8	600	HF25G1
1.5	17.8	801	HF25G1.5
2.5	22.5	1100	HF25G2.5
<b>41C+E</b>			
0.5	16.1	575	HF42G0.5
0.75	18.1	600	HF42G0.75
1	19.3	948	HF42G1
1.5	21.5	1290	HF42G1.5
2.5	27.4	1800	HF42G2.5
<b>64C+E</b>			
0.75	24.7	841	HF65G0.75
1	23.7	1400	HF65G1
1.5	27.6	1994	HF65G1.5

G = with green-yellow earth core.

X = without green-yellow earth core (OZ).

**Note** Black cores with continuous white numbering according to DIN VDE 0293.

Flexible drag chain cables also available with PUR sheath to class 6 stranding. Variations including braided construction also available in both PVC and PUR materials.

Please consult your Olex sales office or the Olex website for further information.



# Robotics Cable



**Construction** 300/500V cables, flexible PVC insulated and polyurethane sheathed, PUR sheath flame retardant to test method B IEC 60332-1, copper conductors to DIN VDE 0295 class 6 and IEC 60228 class 6, flexing  $-30^{\circ}\text{C}$  to  $80^{\circ}\text{C}$ , fixed  $-40^{\circ}\text{C}$  to  $80^{\circ}\text{C}$ . Minimum bending radius  $7.5 \times$  cable o.d.

**Application** These special robotic power and control cables are specially designed for torsion and bending stresses found in robotic applications.

No. cores $\times$ cross-sec. $\text{mm}^2$	Nominal diameter mm	Approx. mass kg/km	Product code
$7 \times 0.25$	5.8	48	RCC7X0.25
$25 \times 0.25$	10.4	143	RCC25X0.25
$2 \times 0.34$	4.0	28	RCC2X0.34
$3 \times 0.34$	4.0	34	RCC3X0.34
$12 \text{ G } 0.5$	10.4	90	RCC12G0.5
$18 \text{ G } 0.5$	12.7	121	RCC18G0.5
$25 \text{ G } 0.5$	14.2	256	RCC25G0.5
$4 \text{ G } 0.75$	6.0	63	RCC4G0.75
$12 \text{ G } 0.75$	11.5	171	RCC12G0.75
$14 \text{ G } 0.75$	12.8	200	RCC14G0.75
$2 \times 1$	6.0	48	RCC2X1
$3 \text{ G } 1$	6.0	60	RCC3G1
$4 \text{ G } 1$	6.3	78	RCC4G1
$7 \text{ G } 1$	8.5	131	RCC7G1
$12 \text{ G } 1$	12.5	216	RCC12G1
$18 \text{ G } 1$	15.4	306	RCC18G1
$25 \text{ G } 1$	17.4	432	RCC25G1
$34 \text{ G } 1$	21.3	569	RCC34G1
$41 \text{ G } 1$	23.2	694	RCC41G1
$12 \text{ G } 1.5$	15.5	356	RCC12G1.5
$18 \text{ G } 1.5$	19.3	445	RCC18G1.5
$25 \text{ G } 1.5$	21.8	636	RCC25G1.5
$3 \text{ G } 2.5$	8.4	136	RCC3G2.5
$4 \text{ G } 2.5$	9.1	170	RCC4G2.5
$3 \text{ G } 4$	10.3	227	RCC3G4
$3 \text{ G } 10$	15.6	518	RCC3G10
$3 \text{ G } 16$	18.2	722	RCC3G16
$3 \text{ G } 25$	22.9	1180	RCC3G25
$3 \text{ G } 35$	26.5	1600	RCC3G35

No. cores $\times$ cross-sec. $\text{mm}^2$	Nominal diameter mm	Approx. mass kg/km	Product code
$12 \times 0.14$	7.8	95	RCY12X0.14
$18 \times 0.14$	9.7	120	RCY18X0.14
$25 \times 0.14$	10.9	158	RCY25X0.14
$12 \times 0.25$	8.3	126	RCY12X0.25
$18 \times 0.25$	10.1	164	RCY18X0.25
$25 \times 0.25$	11.1	215	RCY25X0.25
$12 \times 0.34$	8.8	160	RCY12X0.34
$18 \times 0.34$	10.8	210	RCY18X0.34
$25 \times 0.34$	12.1	305	RCY25X0.34
$12 \text{ G } 0.5$	11.2	175	RCY12G0.5
$18 \text{ G } 0.5$	13.6	231	RCY18G0.5
$25 \text{ G } 0.5$	14.8	347	RCY25G0.5
$12 \text{ G } 0.75$	11.8	220	RCY12G0.75
$18 \text{ G } 0.75$	15.0	305	RCY18G0.75
$25 \text{ G } 0.75$	16.6	415	RCY25G0.75
$12 \text{ G } 1$	13.0	265	RCY12G1
$18 \text{ G } 1$	16.1	390	RCY18G1
$25 \text{ G } 1$	18.0	540	RCY25G1
$12 \text{ G } 1.5$	16.2	345	RCY12G1.5
$18 \text{ G } 1.5$	20.3	485	RCY18G1.5
$25 \text{ G } 1.5$	22.5	710	RCY25G1.5

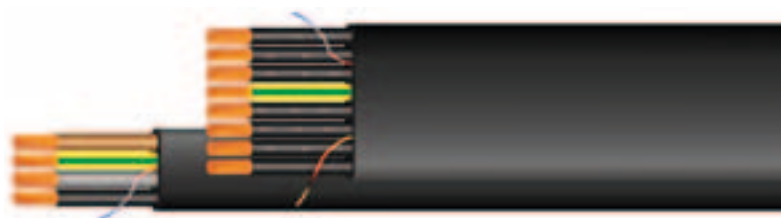
G = with green-yellow earth core.

X = without green-yellow earth core (OZ).



# H07VVH6-F

## PVC Flat Cable



**Construction** 450/750V cables, PVC insulated and PVC sheathed. Insulation includes threads in each group of cores to assist when stripping the outer sheath. Plain copper conductors to IEC 60228 Class 5.

**Application** These power and control cables can be used on festoon systems on handling equipment, e.g. overhead cranes. Specially designed for indoor and outdoor applications.

No. cores × cross-sec. mm <sup>2</sup>	Approx. outer dimensions mm	Approx. weight kg/km	Product code
<b>Power</b>			
4 G 4	21 × 6.5	300	FC4G4
4 G 6	23 × 7	390	FC4G6
4 G 10	29 × 9	620	FC4G10
4 G 16	37 × 11	990	FC4G16
4 G 25	46 × 13.5	1550	FC4G25
4 G 35	51 × 14.8	2030	FC4G35
4 G 50	56 × 16.5	2650	FC4G50
4 G 70	63 × 18	3650	FC4G70
4 G 95	73 × 20.5	4550	FC4G95
5 G 4	25 × 6.5	380	FC5G4
5 G 6	28 × 7	480	FC5G6
5 G 10	35 × 9	780	FC5G10
5 G 16	43 × 11	1200	FC5G16
7 G 4	37 × 6.5	550	FC7G4
7 G 6	41 × 7	700	FC7G6
<b>Control</b>			
4 G 1.5	15 × 5	150	FC4G1.5
4 G 2.5	18.5 × 6	210	FC4G2.5
5 G 1.5	18 × 5	180	FC5G1.5
5 G 2.5	22 × 6	260	FC5G2.5
7 G 1.5	26 × 5	260	FC7G1.5
7 G 2.5	32 × 6	380	FC7G2.5
8 G 1.5	29 × 5	300	FC8G1.5
8 G 2.5	35 × 6	405	FC8G2.5
10 G 1.5	35 × 5	360	FC10G1.5
12 G 1.5	40.5 × 5	420	FC12G1.5
12 G 2.5	50.5 × 6	620	FC12G2.5
12 G 4	57 × 6.5	880	FC12G4
14 G 1.5	48 × 5	490	FC14G1.5
16 G 1.5	54 × 5	560	FC16G1.5
18 G 1.5	58 × 5	620	FC18G1.5

### Mechanical Properties

Tensile stress of the conductor	static	15N/mm <sup>2</sup>
	dynamic	30N/mm <sup>2</sup>
Bending radii	Refer to page 34	
Tests	Bending test	
Travelling festoon speed	up to 120m/min	

### Electrical and Thermal Properties

Nominal voltage	U <sub>0</sub> /U	450/750V
Maximum operating voltage		
in AC systems	Um	750V
Test Voltage:		2.5kV–50Hz in AC
Current Rating		Refer to page 34
Max. temperature at the conductor:		
	in service	+70°C
	in short-circuit	+150°C
Max. surface temperature	fixed installations	–35°C up to +60°C
	mobile operation	–25°C up to +60°C

### Cores Identifications

In accordance with HD 308 S2
4 cores: black, grey, green/yellow, brown
5 cores: black, grey, green/yellow, brown, blue
>5 cores: black with white printed numbers + green/yellow



# VCVH6-F

## Screened PVC Flat Cable



**Construction** 300/500V (control) and 0.6/1 (1.2)kV (power) cables, PVC insulated and outer sheath, screened with plain copper braid (control) and plain copper spinning on phase cores - earth core is unscreened (power), plain copper conductors to IEC 60228 Class 5.

**Application** These power and control cables can be used for hoisting control systems in festoons on overhead cranes. Copper screens are efficient against electro magnetic disturbances caused by power and control cables.

No. cores × cross-sec. mm <sup>2</sup>	Approx. outer dimensions mm	Approx. weight kg/km	Product code
<b>Power</b>			
4 G 4	23 × 7	360	FCY4G4
4 G 6	29 × 9	580	FCY4G6
4 G 10	37 × 11	900	FCY4G10
4 G 16	46 × 14	1280	FCY4G16
4 G 25	50 × 14.5	1800	FCY4G25
4 G 35	55 × 16	2300	FCY4G35
<b>Control</b>			
4 × 1.5	18 × 5.5	220	FCY4 × 1.5
8 × 1.5	34 × 5.5	430	FCY8 × 1.5
12 × 1.5	50 × 5.5	650	FCY12 × 1.5

### Mechanical Properties

Tensile stress of the conductor	static	15N/mm <sup>2</sup>
	dynamic	30N/mm <sup>2</sup>
Bending radii	Refer to page 34	
Tests	Bending test	
Travelling festoon speed	up to 120m/min	

### Electrical and Thermal Properties

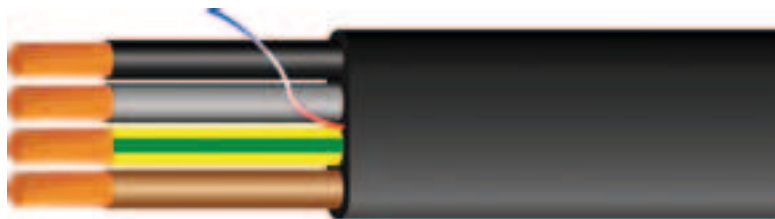
Test Voltage:	control	2.0kV–50Hz in AC
	power	2.5kV–50Hz in AC
Current Rating	Refer to page 34	
Max. temperature at the conductor:		
	in service	+70°C
	in short-circuit	+150°C
Max. surface temperature	fixed installations	–35°C up to +60°C
	mobile operation	–25°C up to +60°C

### Cores Identifications

Power: black, grey, brown, green/yellow
Control: black with white printed numbers

# Rheyflat®-N / NGFLGOEU-J

## Rubber Flat Festoon Cable



**Construction** 300/500V cables, EPR rubber compound insulated, PCP rubber compound outer sheath, plain copper conductors,  $\leq 25\text{mm}^2$  extra flexible stranded class 6,  $\geq 35\text{mm}^2$  flexible stranded class 5, to IEC 60228/DIN VDE 0295.

**Application** These cables are used for festoon and handling systems, machine tools, lifts and e-chain cable carrier systems. For applications with high mechanical stress and frequent bending in one plane only

No. cores $\times$ cross-sec. $\text{mm}^2$	Approx. outer dimensions mm	Approx. weight kg/km	Product code
<b>Power</b>			
4 G 4	9 $\times$ 26	410	RFC4 $\times$ 4
5 G 4	9 $\times$ 32	560	RFC5 $\times$ 4
7 G 4	9 $\times$ 42	700	RFC7 $\times$ 4
4 G 6	9.5 $\times$ 29	600	RFC4 $\times$ 6
5 G 6	9.5 $\times$ 35	650	RFC5 $\times$ 6
7 G 6	9.5 $\times$ 42	850	RFC7 $\times$ 6
4 G 10	11 $\times$ 33	800	RFC4 $\times$ 10
5 G 10	11 $\times$ 44	1000	RFC5 $\times$ 10
4 G 16	13 $\times$ 38	1150	RFC4 $\times$ 16
5 G 16	13 $\times$ 50	1450	RFC5 $\times$ 16
4 G 25	15 $\times$ 49.5	1700	RFC4 $\times$ 25
5 G 25	16 $\times$ 60	2200	RFC5 $\times$ 25
7 G 25	16 $\times$ 80	3060	RFC7 $\times$ 25
4 G 35	17 $\times$ 55	2200	RFC4 $\times$ 35
7 G 35	17 $\times$ 88	3900	RFC7 $\times$ 35
4 G 50	19 $\times$ 63	3000	RFC4 $\times$ 50
4 G 70	22 $\times$ 71	4000	RFC4 $\times$ 70
4 G 95	25 $\times$ 80	5300	RFC4 $\times$ 95
4 G 120	27 $\times$ 86	6400	RFC4 $\times$ 120
<b>Control</b>			
4 G 1.5	6.2 $\times$ 17.5	200	RFC4 $\times$ 1.5
5 G 1.5	6.2 $\times$ 21.5	240	RFC5 $\times$ 1.5
7 G 1.5	6.2 $\times$ 29	360	RFC7 $\times$ 1.5
8 G 1.5	6.2 $\times$ 31.5	370	RFC8 $\times$ 1.5
10 G 1.5	6.5 $\times$ 40	520	RFC10 $\times$ 1.5
12 G 1.5	6.5 $\times$ 47	620	RFC12 $\times$ 1.5
24 G 1.5	12.5 $\times$ 55	1300	RFC24 $\times$ 1.5
4 G 2.5	7.5 $\times$ 21	280	RFC4 $\times$ 2.5
5 G 2.5	7.5 $\times$ 27	400	RFC5 $\times$ 2.5
7 G 2.5	7.5 $\times$ 35	520	RFC7 $\times$ 2.5
8 G 2.5	7.5 $\times$ 39	550	RFC8 $\times$ 2.5
12 G 2.5	8 $\times$ 56	800	RFC12 $\times$ 2.5
24 G 2.5	16 $\times$ 68	1850	RFC24 $\times$ 2.5

### Mechanical Properties

Tensile stress of the conductor	static	15N/mm <sup>2</sup>
	dynamic	30N/mm <sup>2</sup>
Bending radii	Refer to page 34	
Tests	Bending test	
Travelling festoon speed	up to 180m/min	

### Electrical and Thermal Properties

Test Voltage:	2.0kV–50Hz in AC
Current Rating	Refer to page 34
Max. temperature at the conductor:	
in service	+90°C
under short-circuit conditions	+250°C
Max. surface temperature	
fixed installations	–50°C up to +80°C
mobile operation	–35°C up to +80°C

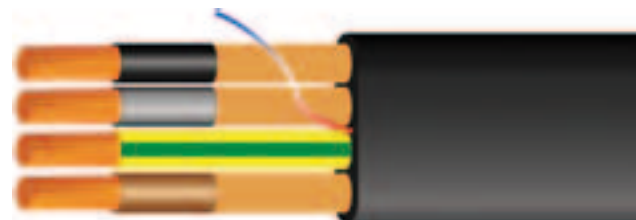
### Cores Identification

DIN VDE 0293 part 308/HD 308 S2
4 cores: black, grey, green/yellow, brown
5 cores: black, grey, green/yellow, brown, blue
>5 cores: black with white printed numbers & green/yellow



# Rheyflat®-N / (N)GFLCGOEU-J

## Screened Rubber Flat Festoon Cable



**Construction** 300/500V cables, EPR rubber compound insulated, PCP rubber compound outer sheath, tinned copper braid screen with >80% coverage, flame retardant, plain copper conductors,  $\leq 25\text{mm}^2$  extra flexible stranded class 6,  $\geq 35\text{mm}^2$  flexible stranded class 5, to IEC 60228/DIN VDE 0295.

**Application** These cables are used for festoon and handling systems, machine tools, lifts and e-chain cable carrier systems. For applications with high mechanical stress and frequent bending in one plane only. Copper screens are efficient against electro magnetic disturbances caused by power cables.

No. cores $\times$ cross-sec. $\text{mm}^2$	Approx. outer dimensions mm	Approx. weight kg/km	Product code
<b>Power</b>			
4 G 4 C	$29 \times 10.5$	505	RFCY4 $\times$ 4C
4 G 6 C	$31 \times 10.5$	605	RFCY4 $\times$ 6C
4 G 10 C	$36 \times 11.5$	840	RFCY4 $\times$ 10C
4 G 16 C	$41.5 \times 13.5$	1180	RFCY4 $\times$ 16C
4 G 25 C	$47 \times 15$	1605	RFCY4 $\times$ 25C
4 G 35 C	$55 \times 17$	2520	RFCY4 $\times$ 35C
4 G 50 C	$66 \times 20.5$	3000	RFCY4 $\times$ 50C
<b>Control</b>			
4 G 1.5 C	$18.5 \times 6.5$	220	RFCY4 $\times$ 1.5C
8 G 1.5 C	$36 \times 7.5$	470	RFCY8 $\times$ 1.5C
12 G 1.5 C	$54.5 \times 8.5$	745	RFCY12 $\times$ 1.5C
4 G 2.5 C	$22.5 \times 7.5$	320	RFCY4 $\times$ 2.5C
12 G 2.5 C	$69.5 \times 9.5$	1180	RFCY12 $\times$ 2.5C
<b>Bus</b>			
4 $\times$ (2 $\times$ 1) C	$37 \times 12.5$	640	RFCY4 $\times$ 2 $\times$ 1C

### Mechanical Properties

Tensile stress of the conductor	static	15N/mm <sup>2</sup>
	dynamic	30N/mm <sup>2</sup>
Bending radii	Refer to page 34	
Tests	Bending test	
Travelling festoon speed	up to 180m/min	

### Electrical and Thermal Properties

Test Voltage:	2.0kV in AC
(according to DIN VDE 0250 part 809)	
Current Rating	Refer to page 34
Max. temperature at the conductor:	
in service	+90°C
under short-circuit conditions	+250°C
Max. surface temperature	
fixed installations	−50°C up to +80°C
mobile operation	−35°C up to +80°C

### Cores Identification

DIN VDE 0293 part 308/HD 308 S2
4 cores: black, grey, green/yellow, brown
5 cores: black, grey, green/yellow, brown, blue
>5 cores: black with white printed numbers & green/yellow

# Boitalyon® R

## PVC Pendant Overhead Crane Cable



**Construction** 300/500V cables, flexible XLPE insulated with twin figure 8 PVC outer sheathed, plain copper conductors to IEC 60228 Class 5.

**Application** These cables are specially designed with lateral suspension strands and are used in remote control overhead cranes from push button boxes. They can also be used for installations where the hanging length of the cable does not exceed 50m.

No. cores × cross-sec. mm <sup>2</sup>	Approx. outer dimensions mm	Approx. weight kg/km	Product code
5 × 1.5	20 × 9.5	210	RPC5 × 1.5
8 × 1.5	24 × 12.5	300	RPC8 × 1.5
12 × 1.5	24 × 12.5	350	RPC12 × 1.5
12 G 1.5	24 × 12.5	350	RPC12G1.5
16 × 1.5	25.5 × 14.5	440	RPC16 × 1.5
20 × 1.5	27 × 15.5	520	RPC20 × 1.5
20 G 1.5	27 × 15.5	520	RPC20G1.5
30 × 1.5	30 × 19	700	RPC30 × 1.5

### Mechanical Properties

Max. tensile load of the two steel supports	1000N
Bending radii	10 × D (cable diameter)
Tests	Alternating/reversed bending test, torsional resistance test

### Electrical and Thermal Properties

Nominal voltage	U <sub>0</sub> /U	300/500V
Maximum operating voltage		
in AC systems	U <sub>m</sub>	500V
Test Voltage:		2.5kV in AC
Current Rating		Refer to page 34
Max. temperature at the conductor:		
	in service	+90°C
	in short-circuit	+250°C
Max. surface temperature	mobile operation	-25°C up to +60°C





# Buflex® X'Prem Reeling Cable



**Construction** 0.6/1kV cables, XLPE insulated with double layer anti-twisting reinforced polyurethane outer sheath, plain copper conductors to IEC 60228 Class 5. Includes central strength member.

**Application** Buflex X'Prem cables with polyurethane sheath are specially designed for reeling applications, with high mechanical stresses and severe environmental conditions such as torsion, tension, torque and abrasion. Reeling speed up to 150m/min.

No. cores × cross-sec. weight mm <sup>2</sup>	Outer diameter Min. mm	Max. mm	Approx. kg/km	Max. tensile load (N)	Product Code
<b>Power</b>					
4 G 2.5	10	11.5	180	250	BXP4G2.5
4 G 4	11.5	13	260	400	BXP4G4
4 G 6	13	14.5	370	600	BXP4G6
4 G 10	15.5	17	580	1000	BXP4G10
4 G 16	19.5	21.5	920	1600	BXP4G16
3 × 25+3 G 6	23.5	25.5	1240	1960	BXP3 × 25.3G6
3 × 35+3 G 6	27	29.5	1640	2650	BXP3 × 35.3G6
3 × 50+3 G 10	30	32.5	2240	3750	BXP3 × 50.3G10
3 × 70+3 G 16	35	37.5	3100	5250	BXP3 × 70.3G16
3 × 95+3 G 16	39	42	3890	7150	BXP3 × 95.3G16
3 × 120+3 G 25	44	47	5080	9000	BXP3 × 120.3G25
3 × 150+3 G 25	49	52.5	6160	11250	BXP3 × 150.3G25
3 × 185+3 G 35	54.5	58.5	7680	13800	BXP3 × 185.3G35
3 × 240+3 G 50	60.5	64.5	9870	18000	BXP3 × 240.3G50
3 × 300+3 G 50	68.5	72.5	12300	22500	BXP3 × 300.3G50
5 G 2.5	11	12.5	220	310	BXP5G2.5
5 G 4	13	14.5	320	500	BXP5G4
5 G 6	15	16.5	450	750	BXP5G6
5 G 10	18	20	700	1250	BXP5G10
5 G 16	22	24	1100	2000	BXP5G16
5 G 25	27	29.5	1550	3100	BXP5G25
5 G 35	31	33.5	2050	4350	BXP5G35
<b>Control</b>					
7 × 1.5	11.5	13	210	260	BXP7 × 1.5
12 × 1.5	16	17.5	330	450	BXP12 × 1.5
18 × 1.5	16	17.5	410	670	BXP18 × 1.5
24 × 1.5	19	21.5	680	900	BXP24 × 1.5
36 × 1.5	22	24	900	1350	BXP36 × 1.5
7 × 2.5	12.5	14	30	430	BXP7 × 2.5
12 × 2.5	18.5	20.5	610	750	BXP12 × 2.5
18 × 2.5	18.5	20.5	740	1120	BXP18 × 2.5
24 × 2.5	22.5	24.5	1050	1500	BXP24 × 2.5
36 × 2.5	25	28	1430	2250	BXP36 × 2.5
42 × 2.5	27	29.5	1500	2620	BXP42 × 2.5
26 × 2.5+ (4 × 2.5)C	24.5	27	1260	1870	BXP26 × 2.5PLUS

## Mechanical Properties

Max. tensile load	25N/mm <sup>2</sup> of phases copper cross section
Bending radii	Fixed: 6 × d
	Mobile: 8 × d
	S-shape deflection: 20 × d
Tests	Bending test, torsional test, reeling test
Reeling speed	up to 150m/min (for higher speed contact us)

## Electrical and Thermal Properties

Test Voltage:	Power 3.5kV in AC
	Control 2.5kV in AC

Current Rating	in accordance with IEC 60354-5-52-12
Max. temperature at the conductor:	
	in service + 90°C
	under short-circuit conditions + 250°C
Max. surface temperature	fixed installation -40°C up to +80°C

## Cores Identification

Control:	white with printed numbers
Power 4 cores:	black, brown, grey, green/yellow (3 earth cores for sizes > 25mm <sup>2</sup> )
Power 5 cores:	black, brown, grey, blue, green/yellow

# Rheychalon

## 4GKW EN



**Construction** 1.8/3 (3.6)kV cables designed to EN 50264-3-1 table 3, special cross-linked EPR, rubber type EI 110 insulation and special cross-linked EPR rubber type EI 104 sheath according to EN 50264-1, flexible stranded tinned copper conductor according to DIN VDE 0295/IEC 60228/HD 383 class 5, conductor wrapping optional.

**Application** These cables are used for rolling stock (locomotives, trains, trolleybuses, etc), switching stations and control panel applications.

Cross section mm <sup>2</sup>	Approx. outer diameter min. mm	Approx. outer diameter max. mm	Caloric load approx. kWh/m	Approx. weight kg/km	Product Code
2.5	6.2	6.5	0.22	60	RSHXAFOE1X2.5BLK
4	6.8	7.2	0.25	80	RSHXAFOE1X4BLK
6	7.4	7.9	0.3	100	RSHXAFOE1X6BLK
10	8.7	9.2	0.35	160	RSHXAFOE1X10BLK
16	9.8	10.6	0.45	230	RSHXAFOE1X16BLK
25	10.3	10.9	0.40	290	RS4GKW-EN1X25BLK
35	11.4	12.0	0.46	400	RS4GKW-EN1X35BLK
50	13.3	13.9	0.60	550	RS4GKW-EN1X50BLK
70	15.3	15.9	0.75	750	RS4GKW-EN1X70BLK
95	17.0	17.6	0.85	970	RS4GKW-EN1X95BLK
120	19.3	19.9	1.10	1250	RS4GKW-EN1X120BLK
150	21.6	22.2	1.35	1550	RS4GKW-EN1X150BLK
185	23.5	24.1	1.50	1900	RS4GKW-EN1X185BLK
240	26.6	27.2	1.90	2450	RS4GKW-EN1X240BLK
300	29.3	30.1	2.20	3050	RS4GKW-EN1X300BLK
400	34.1	34.9	3.50	4000	RS4GKW-EN1X400BLK

### Electrical Properties

Nominal voltage	U <sub>0</sub> /U (U <sub>max</sub> )=1.8/3.0 (3.6)kV
Maximum operating voltage in	
DC installations, one-sided earthed	V <sub>0</sub> =2.7kV DC
Testing AC Voltage (5 minutes):	U=6.5kV
Max. operating temperature at the conductor:	
conductor at normal operation	≤ 90°C/100,000h
conductor at normal operation	≤ 120°C/20,000h
overload	≤ 160°C/50h
conductor under short-circuit conditions (tinned)	≤ 200°C
Min. permissible ambient temperature	
operating in cold	≥ -40°C
Min bending radii	
fixed installation	≥ 5D
free moved	≥ 10D
	D=cable Ø



# Silicone Single Core Cable

## Halogen Free



**Construction** 500V cables, fixed or flexible conductor silicone insulated with or without glass fibre braiding, halogen free to IEC 60754-2, tinned copper conductors to DIN VDE 0295 class 5 and IEC 60228 class 5, fixed  $-60^{\circ}\text{C}$  to  $180^{\circ}\text{C}$ .  
Min. bending radius  $15 \times$  cable o.d.

**Application** Silicone cables are suitable wherever cables are subjected to extreme temperature changes. They are used mainly in the steel producing and aviation industries as well as in ship building, cement, glass and ceramic factories. These cables are halogen free and especially suitable for use in power stations.

Cross section mm <sup>2</sup>	Nominal diameter mm	Approx. mass kg/km	Product code
<b>Type SiF – Tinned copper conductors, silicone core insulation</b>			
0.25	1.9	5.5	SIF232
0.5	2.1	8.6	SIF233
0.75	2.4	11.8	SIF234
1	2.5	13.5	SIF235
1.5	2.8	18.5	SIF236
2.5	3.4	30.0	SIF237
4	4.2	47.3	SIF238
6	5.2	71.1	SIF239
10	7.0	119.4	SIF246
16	8.4	187.7	SIF247
25	10.3	289.6	SIF248
35	11.6	398.3	SIF23953
50	13.9	559.7	SIF23954
70	16.0	765.8	SIF23955
95	18.4	1031.5	SIF23956
120	20.0	1284.6	SIF23957
150	23.0	1563.4	SIF23958
185	24.9	1858.2	SIF23959
<b>Type SiF/GL – As SiF plus glass fibre braiding</b>			
0.25	2.4	7.7	SIF/GL47001
0.5	2.6	12.4	SIF/GL47002
0.75	2.9	16.2	SIF/GL47003
1	3.0	18.2	SIF/GL47004
1.5	3.3	23.4	SIF/GL47005
2.5	3.9	35.2	SIF/GL47006
4	4.7	53.5	SIF/GL47007
6	5.7	77.4	SIF/GL47008
10	7.5	129.2	SIF/GL47009
16	8.9	198.4	SIF/GL47010
25	10.8	303.0	SIF/GL47011
35	12.1	413.2	SIF/GL47012
50	14.4	577.8	SIF/GL47013

G = with green-yellow earth core.

X = without green-yellow earth core (OZ).

### Silicone single and multicore resistances to oil and acids

• High molecular oils	• Diluted acids
• Fats from vegetables and animals	• Salt dissolution
• Alcohols	• Oxidation substances
• Plasticisers	• Oxygen and UV

# Silicone Multicore Cable

## Flexible Halogen Free



**Construction** 300/500V cables, silicone insulated, silicone sheathed, halogen free to IEC 60754-2, tinned copper conductors to DIN VDE 0295 class 5 and IEC 60228 class 5, fixed  $-60^{\circ}\text{C}$  to  $180^{\circ}\text{C}$  (peak  $220^{\circ}\text{C}$ ). Min. bending radius  $7.5 \times$  cable o.d.

**Application** Silicone cables are suitable wherever cables are subjected to extreme temperature changes. They are used mainly in the steel producing and aviation industries as well as in ship building, cement, glass and ceramic factories. These cables are halogen free and especially suitable for use in power stations.

No. cores & cross-sec. mm <sup>2</sup>	Nominal diameter mm	Approx. mass kg/km	Product code
<b>2C</b>			
0.5	5.5	42	SF2X0.5
0.75	6.4	53	SF2X0.75
1	6.6	59	SF2X1
1.5	7.6	81	SF2X1.5
2.5	9.2	134	SF2X2.5
<b>2C+E</b>			
0.5	5.8	44	SF3G0.5
0.75	6.8	63	SF3G0.75
1	7.4	77	SF3G1
1.5	8	98	SF3G1.5
2.5	9.7	152	SF3G2.5
4	11.4	224	SF3G4
6	14.2	338	SF3G6
<b>3C+E</b>			
0.5	6.2	58	SF4G0.5
0.75	7.8	83	SF4G0.75
1	8	94	SF4G1
1.5	8.8	122	SF4G1.5
2.5	10.6	188	SF4G2.5
4	13.1	295	SF4G4
6	16.2	441	SF4G6
<b>4C+E</b>			
0.5	6.8	62	SF5G0.5
0.75	8.5	101	SF5G0.75
1	8.8	115	SF5G1
1.5	9.6	147	SF5G1.5
2.5	11.6	228	SF5G2.5
4	14.4	359	SF5G4
6	17.7	535	SF5G6
<b>6C+E</b>			
1	9.5	144	SF7G1
1.5	10.4	187	SF7G1.5
2.5	13	320	SF7G2.5
4	16.2	479	SF7G4
<b>11C+E</b>			
1	11.5	231	SF12G1
1.5	14.6	314	SF12G1.5
2.5	17.8	502	SF12G2.5

G = with green-yellow earth core.

X = without green-yellow earth core (OZ).



# Stranding and Current Ratings

## Stranding to DIN VDE 0295, IEC 60228

Cross-section mm <sup>2</sup>	Class 2 VDE 0295		Class 5 VDE 0295	Class 6 VDE 0295			
	Stranded Wires	Multi Str. Wires	Fine Wires	Extra Fine Wires	Extra Fine Wires	Extra Fine Wires	Extra Fine wires
0.05						14 × 0.07	26 × 0.05
0.08							40 × 0.05
0.09						24 × 0.07	
0.14			18 × 0.1	18 × 0.1		36 × 0.07	72 × 0.05
0.25			14 × 0.15	32 × 0.1		65 × 0.07	128 × 0.05
0.34		7 × 0.25	19 × 0.15	42 × 0.1		88 × 0.07	174 × 0.05
0.38		7 × 0.27	12 × 0.2	21 × 0.15		100 × 0.07	194 × 0.05
0.5	7 × 0.30*	7 × 0.30	16 × 0.2	28 × 0.15		131 × 0.07	256 × 0.05
0.75	7 × 0.37	7 × 0.37	24 × 0.2	42 × 0.15	96 × 0.1	195 × 0.07	384 × 0.05
1.0	7 × 0.43	7 × 0.43	32 × 0.2	56 × 0.15	128 × 0.1	260 × 0.07	512 × 0.05
1.5	7 × 0.52	7 × 0.52	30 × 0.25	84 × 0.15	192 × 0.1	392 × 0.07	768 × 0.05
2.5	7 × 0.67	19 × 0.41	50 × 0.25	140 × 0.15	320 × 0.1	651 × 0.07	1280 × 0.05
4	7 × 0.85	19 × 0.52	56 × 0.3	224 × 0.15	512 × 0.1	1040 × 0.07	
6	7 × 1.05	19 × 0.64	84 × 0.3	192 × 0.2	768 × 0.1	1560 × 0.07	
10	7 × 1.35	49 × 0.51	80 × 0.4	320 × 0.2	1280 × 0.1	2600 × 0.07	
16	7 × 1.70	49 × 0.65	128 × 0.4	512 × 0.2	2048 × 0.1		
25	7 × 2.13	84 × 0.62	200 × 0.4	800 × 0.2	3200 × 0.1		
35	7 × 2.52	133 × 0.58	280 × 0.4	1120 × 0.2			
50	19 × 1.83	133 × 0.69	400 × 0.4	705 × 0.3			
70	19 × 2.17	189 × 0.69	356 × 0.5	990 × 0.3			
95	19 × 2.52	259 × 0.69	485 × 0.5	1340 × 0.3			
120	37 × 2.03	336 × 0.67	614 × 0.5	1690 × 0.3			
150	37 × 2.27	392 × 0.69	765 × 0.5	2123 × 0.3			
185	37 × 2.52	494 × 0.69	944 × 0.5	1470 × 0.4			
240	61 × 2.24	627 × 0.70	1225 × 0.5	1905 × 0.4			
300	61 × 2.50	790 × 0.70	1530 × 0.5	2385 × 0.4			
400	61 × 2.89		2035 × 0.5				
500	61 × 3.23		1768 × 0.6				
630	91 × 2.97		2228 × 0.6				

\*No. of wires × cross-section.

## Current carrying capacity for control cables & silicone cables

Cross-section mm <sup>2</sup>	Flexible Control cables <sup>†</sup> Ambient temp. up to 30°C	Silicone High Temp. cables <sup>†</sup> Ambient temp. up to 150°C		
	In open or ventilated conduits A	Single cores laid in duct A	Single cores laid in open air A	Multicore laid in open air A
0.5	8	6	10	7
0.75	11	9	15	12
1	13	12	19	15
1.5	16	16	24	18
2.5	23	21	32	26
4	30	28	42	34
6	39	36	54	44
10	54	49	73	61
16	72	65	98	82
25	95	85	129	108
35	120	105	158	135
50	150	140	198	168
70	180	175	245	207
95	220	210	292	250

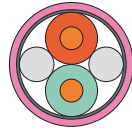
<sup>†</sup>Multicore cables, PVC and PUR sheathed.

## <sup>‡</sup>Current ratings for ambient temperature over 150°C

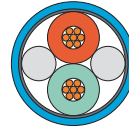
Temperature °C	Current carrying capacity %
up to 150°C	100
over 150 to 155	91
over 155 to 160	82
over 160 to 165	71
over 165 to 170	58
over 170 to 175	41



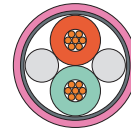
# Bus Technology Cables



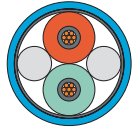
**Profibus L2**



**Profibus L2**



**Profibus L2**



**Profibus L2**

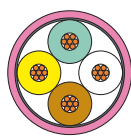
Application	Fixed Indoor/Outdoor	Industry & Drag Chain	7 Wire	Torsion/Mobile
Construction	1 × 2 × 0.64mm	1× 2×0.64mm Industry 1×2×0.64mm Drag Chain	1×2×0.64mm (7 wire)	1×2×0.64mm 1×2×0.65mm Stranded
Core insulation 1	PE	PE	PE	PE
Core insulation 2	—	—	—	—
Core colours	Rd/Gn	Rd/Gn	Rd/Gn	Rd/Gn
Stranding elements	2 cores+2 fillers	2 cores+2 fillers	2 cores+2 fillers	2 cores+2 fillers
Shielding 1	Foil	Foil	Foil	Foil
Shielding 2	Foil Alu lined	Foil Alu lined	Foil Alu lined	Foil Alu lined
Overall shielding	Tinned Cu braided	Tinned Cu braided	Tinned Cu braided	Tinned Cu braided
Outer sheath	PVC or PE	PUR	PVC	PUR & PVC
External diameter	7.8 or 8.0mm	8.0mm	7.8mm	8mm
Outer sheath colour	Grey, Black or Violet	Light Blue	Violet	Violet or Light Blue
Electrical data				
Characteristic impedance	150 Ohm +/- 10%	150 Ohm +/- 10%	150 Ohm +/- 10%	150 Ohm +/- 10%
Conductor resistance	55 Ohm/km max.	55 Ohm/km max.	55 Ohm/km max.	66.5 Ohm/km max.
Insulation resistance	1.0 GOhm × km min.	1.0 GOhm × km min.	1.0 GOhm × km min.	1.0 GOhm × km min.
Mutual capacitance	30nF/km nom.	30nF/km nom.	30nF/km nom.	30nF/km nom.
Test voltage	1.5kV	1.5kV	1.5kV	1.5kV
Attenuation	9.6kHz <2.5dB/km 38.4kHz <4.0dB/km 4MHz <22.0dB/km 16MHz <42.0dB/km	9.6kHz <2.5dB/km 38.4kHz <4.0dB/km 4MHz <22.0dB/km 16MHz <42.0dB/km	9.6kHz <3.0dB/km 38.4kHz <5.0dB/km 4MHz <25.0dB/km 16MHz <52.0dB/km	9.6kHz <3.0dB/km 38.4kHz <5.0dB/km 4MHz <25.0dB/km 16MHz <51.0dB/km
Weight	70kg/km	81kg/km	55kg/km	80kg/km
Min. bending radius	120mm	120mm	110mm	100mm
Operating temperature	−40/+70°C	−40/+70°C	−40/+70°C	−5/+60°C
Applicable standards	Profibus DIN 19245	Profibus DIN 19245	Profibus DIN 19245	Profibus DIN 19245
International standards	UL 2571	UL 2571	UL 2571	UL1685
Product codes	OLX80384 OLX81448 OLX81903 OLX81904 BUS44475989 BUS44477919	OLX81003 OLX81905 OLX81906  BUS44476389	OLX800648	OLX800109 OLX800649

- Other BUS cables available include E-BUS, I-BUS, A-BUS, Industrial Ethernet, CC-Link & ProfiNet.
- For further product codes and data, contact Olex.





**Profibus L2**



**CAN Bus**



**INTERBUS**



**ASI Bus**



**Desina**



**DeviceNet**

Haz./Non Hazardous	Fixed Indoor/Hi Flexible	Fixed Indoor/Drag Chain	Actuator/Sensor/Interface	Sensor Actuator	Fixed Indoor/Drag Chain
1 × 2 × 1.0/2.55mm	1×2×0.22/0.50mm Indoor 4×1×0.22/0.50mm Indoor 1×2×0.25mm Hi Flex. 4×1×0.25mm Hi Flex.	3 × 2 × 0.22mm +–3 × 1mm	2 × 1.5mm	4 × 0.34mm	1 × 2 × AWG18 +–1 × 2 × AWG15 1 × 2 × AWG24 +–1 × 2 × AWG22
PE	PE	PE	Rubber	PP	PE
–	–	–	–	–	PVC
Rd/Gn	Wh/Bn/Gn/Ye	Wh/Bn, Gn/Rd,Ye/Gn	Bu/Bn	Wh,Bu,Bk,Bn	Light Bu/Wh
2 cores+2 fillers	Double or star quad	Double core		Star quad	Double core
Foil	Polyester foil	Polyester foil			
Foil Alu lined	–			PETP fleece	
Tinned Cu braided	Tinned Cu braided				
PVC	PVC	PVC & PUR	EPDM, PUR & PVC	TPM	PVC & PUR
7.8mm	5.4, 7.1 or 8.5mm	7.0, 7.6 or 8.0mm		4.7mm	6.9, 7, 12 & 12.2mm
Blue or Black	Violet	Blue	Yellow or Black	Black	Grey or Violet
100 Ohm +/– 10%	120 Ohm +/– 10%	120 Ohm +/– 10%			120 Ohm +/– 10%
22 Ohm/km max.	87 Ohm/km max.	87 Ohm/km max.	13.7 Ohm/km max.	60 Ohm/km Max.	90 Ohm/km max.
1.0 GOhm × km min.	1.0 GOhm × km min.	1.0 GOhm × km min.	1.0 GOhm × km min.	1.0 GOhm × km min.	0.02 GOhm × km min.
55nF/km nom.	50–65nF/km nom.	50–65nF/km nom.			
2.5kV	1.5kV	1.5kV		1.5kV	2kV
39kHz <3dB/km		256kHz <1.5dB/100m 772kHz <2.4dB/100m 1MHz <2.7dB/100m 4MHz <5.2dB/100m 10MHz <8.4dB/100m 16MHz <11.2dB/100m 20MHz <11.9dB/100m			125kHz <0.42dB/100m 500kHz <0.81dB/100m
80kg/km	B/W 38–105kg/km	B/W 70–107kg/km	70kg/km	33kg/km	192 & 67kg/km
140mm	81–128mm	110–130mm	30mm	75mm	190 & 110mm
–20/+70°C	–40/+70°C	–40/+70°C	–40/+85°C	–50/+80°C	–20/+80°C
Profibus DIN 19245	Profibus DIN 19245	Interbus Spec 1.1 & 1.2	ASI Standard	DESINA	ODVA Devicenet
UL 2571	UL 2571	UL 2571	UL 758 / CSA 214		
OLX82835 OLX82836 OLX800650 OLX800715 BUS44473419 BUS44473459	OLX81286 OLX81287 OLX800571 OLX800685 OLX81911 OLX81912	OLX80778 OLX81202 OLX81557 OLX81203 OLX82696	OLX80824 OLX80825 OLX82434 OLX82822 BUS48210165 BUS48210116		

# Current Carrying Capacity for H07VVH6-F, VCVH6-F, Rheyflat-N, Boitalyon® R

## Current Carrying Capacity

Nominal cross-sec. of conductor	Single core cable free in air in acc. with EN 50 355	Multi core cable three loaded cores free in air type E in acc. with IEC 60 364-5-52-12	Multi core cable three loaded cores free in air in acc. with IEC 60 364-5-52-12	Multi core cable three loaded cores free on ground in acc. with IEC 60 364-5-52-12
mm <sup>2</sup>	A	A	A	A
	XLPE or EPR	PVC	XLPE or EPR	XLPE or EPR
1.5	29	19	23	22
2.5	38	25	31	29
4	53	34	42	40
6	69	43	54	51
10	98	60	75	71
16	127	80	100	95
25	173	101	127	121
35	219	126	158	150
50	276	153	192	182
70	345	196	246	234
95	414	238	298	283
120	489	276	346	329
150	564	318	395	375
185	644	362	450	428
240	776	424	538	511

## Correction factors for ambient air temperature

Ambient Temp. °C	PVC insulation Temp: 70°C	XLPE or EPR insulation Temp: 90°C
10	1.22	1.15
15	1.17	1.12
20	1.12	1.08
25	1.06	1.04
30	1.00	1.00
35	0.94	0.96
40	0.87	0.91
45	0.79	0.87
50	0.71	0.82
55	0.61	0.76
60	0.50	0.71
65		0.65
70		0.58
75		0.50
80		0.41

**Note** Correction factor for ambient air temperature table to the right.

**XLPE or EPR** Conductor Temperature: 90°C / Reference ambient temperature of 30°C.

**PVC** Conductor Temperature: 70°C / Reference ambient temperature of 30°C.

## Bending Radius

### Cable application

Cable Type	Entry bell	Festoon application	e-chain	Reeling operation	Cable tender	Deflection pulleys	s-shape deflection
BUFLEX DGR	6 x d	6 x d	6 x d	8 x d	8 x d	8 x d	20 x d
BUFLEX SEM							
BUFLEX SC	10 x d	10 x d	10 x d	10 x d	15 x d	15 x d	20 x d
H07VVH6-F							
PVC FLAT		10 x t					
RHEYFLAT-N		10 x t					

d = outer diameter

t = thickness

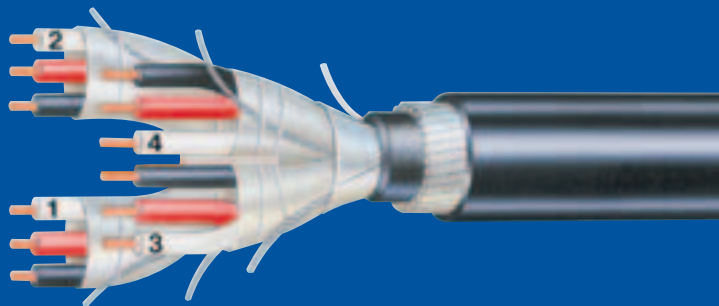




# Instrolex<sup>®</sup> Instrumentation

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Olex has been manufacturing instrumentation cable in Australia for more than 40 years.

Olex instrumentation cables were re-branded in 2007 to Instrolex<sup>®</sup>, however the cable has remained unchanged.

Olex Instrolex<sup>®</sup> is the exact same instrumentation product you have bought from Olex in the past, with the same product design, technical experience and local stock support. And best of all, Instrolex<sup>®</sup> continues to be Australian made, as always. So when you think instrumentation, think Olex Instrolex<sup>®</sup>.



# Instrument Cable Technology

Instrumentation cables are required to transmit 'clean' signals within industrial environments, often where there is a high level of electromagnetic interference through potentially hazardous areas. In order to achieve accurate process control, it is important that signals to and from machines are uncorrupted.

## The challenge: Noise rejection

**Common Mode noise** occurs due to a difference in potential between conductors used for earthing the system at different locations. This potential difference causes currents to flow in the conductors of screens of the cable, which interfere with the signal. This type of noise is normally prevented by using a common earth for all parts of the system, preferably at the equipment end, to which all circuits and screens are connected.

**Crosstalk** is the transfer of signal from one pair to another in the same cable due to electromagnetic and/or electrostatic effects.

This is reduced by making the lay lengths with which the pairs are twisted differ between adjacent pairs, so that in a long length of cable each conductor is subject to the same influence from every other conductor and any induced noise is cancelled.

The pairs and triples of Olex Instrolex® cables are twisted to a lay length of not more than 75mm for single pair and single triple cable. In the multipair overall screened cables the lays are staggered to minimise the crosstalk.

**Electromagnetically induced noise** is due to an induced e.m.f. in the signal-carrying conductor due to an alternating magnetic field such as that existing around a conductor carrying a heavy electric current. Although such currents are generally at 50Hz, which can be filtered out in the equipment, harmonics of very much higher frequencies can be produced, particularly where electric motors and welding plants are in use.

**Electrostatically induced noise** is due to an induced e.m.f. in the signal-carrying conductor due to the capacitance between it

and another conductor. The most effective method of reducing interference of electrostatic and electromagnetic origin is to form the two wires carrying the instrument into a twisted pair. This ensures the voltages induced in the two wires are approximately equal and opposite, so that they cancel each other out.

Additional protection against electrostatic interference is achieved by the use of a total coverage conducting screen.

## The solution: Olex Instrolex® design

Olex Instrolex® screened instrumentation cables are screened with a tape of aluminium-coated polyester film. For multipair applications where electrostatic crosstalk is likely, such as where some pairs operate at higher potential than others, cables are available with the pairs individually screened with aluminium-coated polyester films. All screens in cables are provided with a tinned annealed copper drain wire to equalise potential along the screen and to allow easy connection to earth. Individual screens are electrically separated from each other by a polyester separator tape to prevent circulating currents which could cause common mode noise.

## Transmission characteristics

The low conductor resistance, inductance and capacitance of Instrolex® make it ideal for direct current and alternating current frequencies up to 10kHz, distances of up to 10 kilometres and low-medium speed digital transmission.

For frequencies exceeding 10kHz or for high speed data transmission over long distances, Instrolex® cables can be supplied with low loss insulation materials subject to special order.

## Intrinsic safety

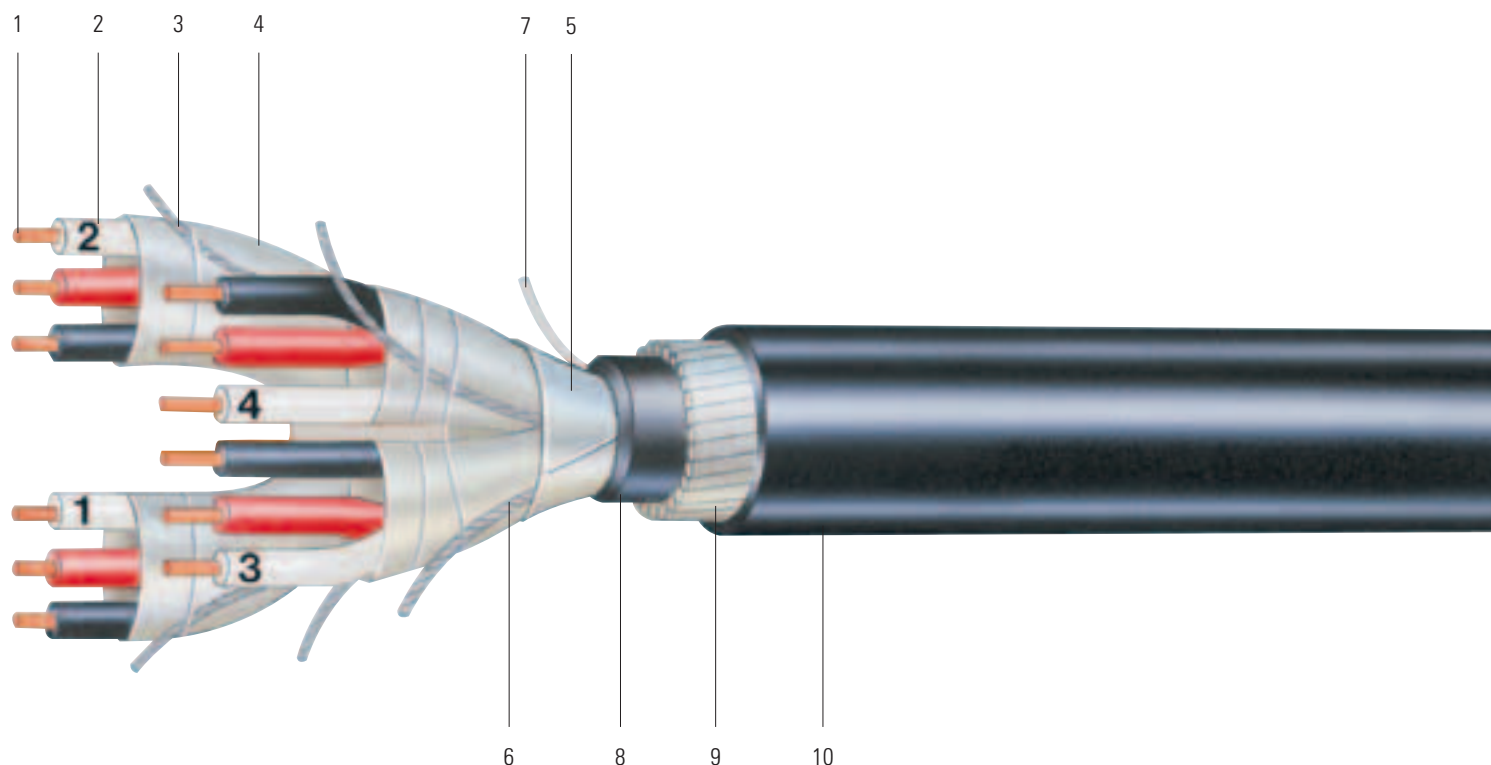
The identification colour light blue is specified for the sheathing of cables containing intrinsically safe circuits. Olex Instrolex® cables can be supplied with a light blue instead of a black sheath, subject to special order.



# Instrolex® Instrumentation Cable Construction

1. Plain annealed copper conductor.
2. Primary insulation is V-90RP which provides excellent physical and electrical properties. Colour coded and numbered for easy identification.
3. Tinned copper drain wire for pair shield. Provides ease of terminating shield.
4. Individual pair shields are aluminium/polyester tape. Gives additional protection against static, noise, common mode noise and crosstalk.
5. Overall shield comprises aluminium/polyester tape for initial protection against noise. The helically applied laminate tape shield provides 100 percent coverage while allowing a smaller

- OD than braid-shielded products and permits longer length. Ease of termination and freedom from insulation puncture (such as with broken braid ends). Adjacent shields are electrically isolated and tested in combinations.
6. Tinned copper drain wire for overall shield provides ease of terminating shield.
  7. Ripcord simplifies field strip back without damage from cutting tools.
  8. Outer V-90RP sheath or bedding for armour.
  9. Galvanised steel wire armour (optional).
  10. Outer V-90RP sheath.



# Instrolex® Instrumentation

## Cable Characteristics

### Physical

Conductor size	AWG	Conductor stranding	Nominal conductor diameter	Nominal insulation thickness	Nominal core diameter	Nominal screen thickness	Drain wire stranding
mm <sup>2</sup>		no/mm	mm	mm	mm	mm	no/mm
0.5	20	7/0.30	0.9	0.4	1.7	0.009	7/0.20
1.5	16	7/0.50	1.5	0.4	2.2	0.009	7/0.20

### Electrical

Conductor size	Conductor resistance at 20°C each wire	Nominal voltage rating	Maximum current rating	Mutual capacitance cond to cond unscreened	Mutual capacitance cond to cond screened	Capacitance both wires cond to screen screened	L/R ratio at 1000Hz
mm <sup>2</sup>	Ohm/100m	a.c./d.c.	Amperes	nF/100m	nF/100m	nF/100m	μH/Ohm
0.5	3.84	110/150	3	8.5	14.5	24.0	15.7
1.5	1.36	110/150	13	11.0	20.0	30.0	36.5

Conductor size	Induction at 1000Hz	Characteristic impedance at 1000Hz unscreened	Characteristic impedance at 1000Hz screened	Crosstalk attenuation between pairs @ 1000Hz unscreened	Crosstalk attenuation between pairs @ 1000Hz screened	Attenuation @ 1000Hz between 600 Ohm terminations unscreened	Attenuation @ 1000Hz between 600 Ohm terminations screened
mm <sup>2</sup>	μH/100m	Ohm	Ohm	dB/100m	dB/100m	dB/100m	dB/100m
0.5	110	450	350	100	125	0.09	0.11
1.5	95	350	260	—	—	0.07	0.09

### Testing

Insulation integrity verified by spark test at 6kV a.c.

H.V. test on cable: between conductors and conductors to screen at 2kV a.c. for 1 minute.

### Colour code

Pairs: Black and white. Each pair is numbered.

Triples: Black, white and red. Each triple is numbered.

### Availability

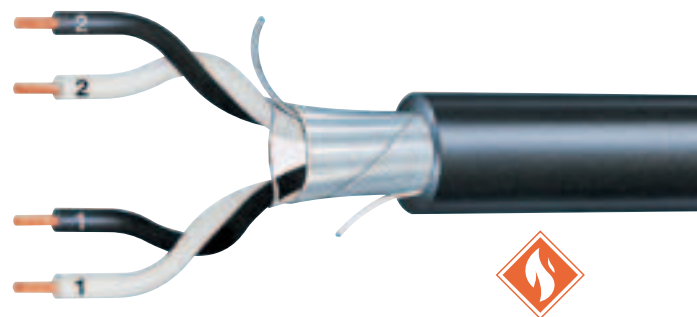
This catalogue provides details of the standard range of instrumentation cables. Generally, these are stock items, however some items may be subject to minimum production runs. Enquire at any Olex sales office to obtain the status of any particular item.





# Instrolex® Instrumentation

## Unscreened & Overall Screened Pairs

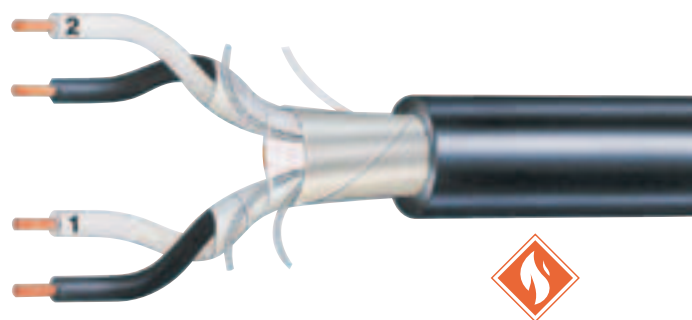


**Construction** Plain annealed copper conductor, V-90RP PVC insulated, twisted pairs, unscreened or overall screened with aluminium polyester tape plus tinned copper drain wire, rip cord, V-90RP PVC sheathed.

Pairs	Nominal outside diameter mm	Minimum bending radius mm	Maximum pulling tension kN	Approximate mass kg/100m	Product code
<b>Conductor 0.5mm<sup>2</sup> (7/0.30mm) screened</b>					
1	5.2	31	0.07	3.5	IEB183AA001
2	7.8	47	0.14	6.3	IEC183AA002
4	8.4	50	0.28	9.4	IEC183AA004
6	10.0	60	0.42	13	IEC183AA006
8	11.2	67	0.56	17	IEC183AA008
10	12.5	75	0.70	21	IEC183AA010
12	13.4	80	0.84	24	IEC183AA012
16	15.1	91	1.12	31	IEC183AA016
20	16.8	101	1.40	38	IEC183AA020
24	18.1	109	1.68	45	IEC183AA024
36	22.0	132	2.52	66	IEC183AA036
50	25.6	153	3.50	90	IEC183AA050
<b>Conductor 1.5mm<sup>2</sup> (7/0.50mm) screened</b>					
1	6.6	40	0.21	6.0	IEB184AA001
2	9.9	60	0.42	11	IEC184AA002
4	10.9	65	0.84	18	IEC184AA004
6	13.0	78	1.26	26	IEC184AA006
8	14.6	88	1.68	33	IEC184AA008
10	16.3	98	2.10	41	IEC184AA010
12	17.5	105	2.52	48	IEC184AA012
16	20.0	120	3.36	63	IEC184AA016
20	22.3	134	4.20	79	IEC184AA020
24	24.1	145	5.04	93	IEC184AA024
36	29.2	175	7.56	137	IEC184AA036
50	34.2	205	10.50	188	IEC184AA050
<b>Conductor 1.5mm<sup>2</sup> (7/0.30mm) unscreened</b>					
1 Pair	6.4	39	0.21	5.6	IEA184AA001

# Instrolex® Instrumentation

## Individually & Overall Screened Pairs



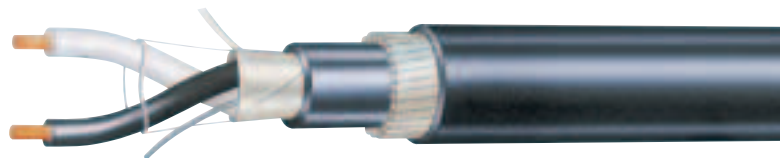
**Construction** Plain annealed copper conductor, V-90RP PVC insulated, twisted pairs, individually and overall screened with aluminium polyester tape plus tinned copper drain wire, rip cord, V-90RP PVC sheathed.

Pairs	Nominal outside diameter mm	Minimum bending radius mm	Maximum pulling tension kN	Approximate mass kg/100m	Product code
<b>Conductor 0.5mm<sup>2</sup> (7/0.30mm)</b>					
2	8.1	49	0.14	7.3	IED183AA002
4	10.4	62	0.28	12	IED183AA004
6	12.2	73	0.42	17	IED183AA006
8	13.9	84	0.56	22	IED183AA008
10	14.6	88	0.70	26	IED183AA010
12	16.0	96	0.84	31	IED183AA012
16	18.0	108	1.12	39	IED183AA016
20	20.1	120	1.40	48	IED183AA020
24	21.9	131	1.68	57	IED183AA024
36	26.3	158	2.52	83	IED183AA036
50	30.6	184	3.50	112	IED183AA050
<b>Conductor 1.5mm<sup>2</sup> (7/0.50mm)</b>					
2	10.3	62	0.42	13	IED184AA002
4	13.4	81	0.84	22	IED184AA004
6	16.1	97	1.26	32	IED184AA006
8	18.2	109	1.68	40	IED184AA008
10	19.3	116	2.10	49	IED184AA010
12	20.9	125	2.52	57	IED184AA012
16	23.9	143	3.36	75	IED184AA016
20	26.5	159	4.20	92	IED184AA020
24	29.0	174	5.04	110	IED184AA024
36	35.1	210	7.56	162	IED184AA036
50	40.8	245	10.50	220	IED184AA050

Refer page 38 for electrical and physical details.



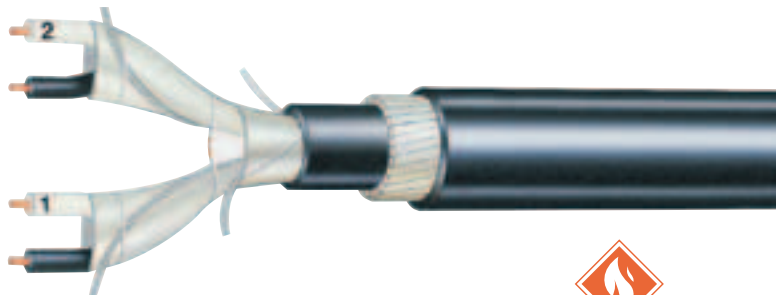
# Instrolex® Instrumentation Overall Screened SWA Pairs



**Construction** Plain annealed copper conductor, V-90RP PVC insulated, twisted pairs, overall screened with aluminium polyester tape plus tinned copper drain wire, rip cord, PVC bedding, steel wire armour, V-90RP PVC sheathed.

Pairs	Nominal over bedding mm	Nominal over armour mm	Nominal outside diameter mm	Minimum bending radius mm	Maximum pulling tension kN	Approximate mass kg/100m	Product code
<b>Conductor 0.5mm<sup>2</sup> (7/0.30mm)</b>							
2	7.4	9.2	11.4	137	2.3	25	IEG183AA002
4	8.0	9.8	12.0	144	2.4	28	IEG183AA004
6	9.4	11.2	13.6	164	2.8	36	IEG183AA006
8	10.6	12.4	14.8	178	3.1	42	IEG183AA008
10	11.7	13.5	16.1	193	3.4	48	IEG183AA010
12	12.6	14.4	17.0	204	3.6	54	IEG183AA012
16	14.3	16.1	18.9	227	4.2	65	IEG183AA016
20	15.8	18.3	21.1	253	6.4	86	IEG183AA020
24	17.1	19.6	22.7	272	6.9	97	IEG183AA024
36	20.5	23.0	26.3	316	8.2	127	IEG183AA036
50	23.9	26.4	29.9	359	9.5	160	IEG183AA050
<b>Conductor 1.5mm<sup>2</sup> (7/0.50mm)</b>							
1	6.2	8.0	10.2	123	2.0	22	IEF184AA001
2	9.4	11.2	13.6	163	2.8	34	IEG184AA002
4	10.3	12.1	14.5	174	3.1	42	IEG184AA004
6	12.2	14.0	16.6	199	3.6	55	IEG184AA006
8	13.8	15.6	18.2	219	4.0	65	IEG184AA008
10	15.2	17.7	20.6	247	6.2	87	IEG184AA010
12	16.5	19.0	22.1	265	6.7	99	IEG184AA012
16	18.8	21.3	24.4	292	7.5	119	IEG184AA016
20	20.8	23.3	26.6	319	8.3	140	IEG184AA020
24	22.6	25.1	28.6	344	9.0	161	IEG184AA024
36	27.7	30.2	34.4	413	11.0	223	IEG184AA036
50	32.3	35.5	39.7	477	16.4	307	IEG184AA050

# Instrolex® Instrumentation Individually & Overall Screened SWA Pairs



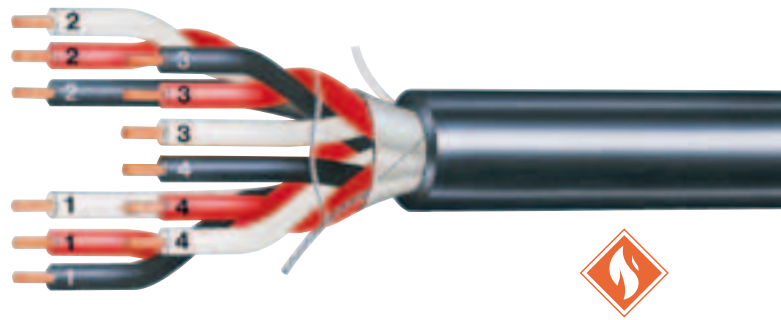
**Construction** Plain annealed copper conductor, V-90RP PVC insulated, twisted pairs individually & overall screened with aluminium polyester tape plus tinned copper drain wire, rip cord, PVC bedding, steel wire armour, V-90RP PVC sheathed.

Pairs	Nominal over bedding mm	Nominal over armour mm	Nominal outside diameter mm	Minimum bending radius mm	Maximum pulling tension kN	Approximate mass kg/100m	Product code
<b>Conductor 0.5mm<sup>2</sup> (7/0.30mm)</b>							
2	7.7	9.5	11.7	141	2.4	26	IEH183AA002
4	9.8	11.6	14.0	168	2.9	35	IEH183AA004
6	11.6	13.4	16.0	192	3.4	45	IEH183AA006
8	13.1	14.9	17.5	210	3.8	52	IEH183AA008
10	13.8	15.6	18.2	219	4.0	58	IEH183AA010
12	15.0	16.8	19.6	235	4.3	66	IEH183AA012
16	17.0	19.5	22.6	271	6.9	91	IEH183AA016
20	18.8	21.3	24.4	293	7.5	104	IEH183AA020
24	20.4	22.9	26.2	315	8.2	118	IEH183AA024
36	24.6	27.1	30.6	368	9.8	155	IEH183AA036
50	29.1	31.6	35.8	430	11.5	202	IEH183AA050
<b>Conductor 1.5mm<sup>2</sup> (7/0.50mm)</b>							
2	9.7	11.5	13.9	167	2.9	36	IEH184AA002
4	12.6	14.4	17.1	205	3.6	51	IEH184AA004
6	15.1	17.6	20.4	245	6.2	78	IEH184AA006
8	17.1	19.6	22.7	272	6.9	92	IEH184AA008
10	18.1	20.6	23.7	284	7.4	103	IEH184AA010
12	19.6	22.1	25.4	305	7.9	116	IEH184AA012
16	22.4	24.9	28.4	341	9.0	143	IEH184AA016
24	27.5	30.0	33.9	407	11.0	194	IEH184AA024

Refer page 38 for electrical and physical details.



# Instrolex® Instrumentation Triples



**Construction** Plain annealed copper conductor, V-90RP PVC insulated, twisted triples, unscreened or overall screened with aluminium polyester tape plus tinned copper drain wire, rip cord, V-90RP PVC sheathed.

## Unscreened and Overall Screened Triples

Triples	Nominal outside diameter mm	Minimum bending radius mm	Maximum pulling tension kN	Approximate mass kg/100m	Product code
<b>Conductor 0.5mm<sup>2</sup> (7/0.30mm) screened</b>					
4	10.0	60	0.42	13	IGC183AA004
6	11.7	70	0.63	19	IGC183AA006
12	16.1	96	1.26	35	IGC183AA012
16	18.1	109	1.68	45	IGC183AA016
36	26.4	159	3.78	96	IGC183AA036
<b>Conductor 1.5mm<sup>2</sup> (7/0.50mm) screened</b>					
1	6.9	42	0.32	7.8	IGB184AA001
4	13.0	78	1.26	26	IGC184AA004
6	15.6	93	1.89	38	IGC184AA006
12	21.1	126	3.78	71	IGC184AA012
16	24.1	145	5.04	93	IGC184AA016
36	35.4	212	11.30	202	IGC184AA036
<b>Conductor 1.5mm<sup>2</sup> (7/0.30mm) unscreened</b>					
1 Triple	6.8	41	0.32	7	IGA184AA001

## Individually and Overall Screened Triples

<b>Conductor 0.5mm<sup>2</sup> (7/0.30mm) screened</b>					
4	11.0	66	0.42	16	IGD183AA004
6	13.1	79	0.63	22	IGD183AA006
12	17.0	102	1.26	40	IGD183AA012
16	19.4	116	1.68	52	IGD183AA016
36	28.2	169	3.78	111	IGD183AA036
<b>Conductor 1.5mm<sup>2</sup> (7/0.50mm) screened</b>					
4	14.2	85	1.26	29	IGD184AA004
6	17.1	102	1.89	42	IGD184AA006
12	22.4	135	3.78	78	IGD184AA012
16	25.6	154	5.04	103	IGD184AA016
36	37.6	225	11.30	223	IGD184AA036

## Overall Screened SWA Triples

Triples	Nominal diameter over bedding mm	Nominal diameter over armour mm	Nominal outside diameter mm	Minimum bending radius mm	Maximum pulling tension kN	Approximate mass kg/100m	Product code
<b>Conductor 0.5mm<sup>2</sup> (7/0.30mm)</b>							
4	9.4	11.2	13.6	164	2.8	36	IGG183AA004
12	15.0	16.8	19.7	236	4.3	70	IGG183AA012
16	17.1	19.6	22.7	272	6.9	97	IGG183AA016
<b>Conductor 1.5mm<sup>2</sup> (7/0.50mm)</b>							
1	6.6	8.4	10.6	127	2.0	24	IGF184AA001
4	12.2	14.0	16.6	199	3.6	55	IGG184AA004
12	19.8	22.3	25.6	307	8.0	132	IGG184AA012

## Individually and Overall Screened SWA Triples

<b>Conductor 0.5mm<sup>2</sup> (7/0.30mm)</b>							
4	10.4	12.2	14.6	175	3.1	40	IGH183AA004
12	15.9	18.4	21.3	256	6.5	88	IGH183AA012
16	18.1	20.6	23.7	284	7.4	107	IGH183AA016
<b>Conductor 1.5mm<sup>2</sup> (7/0.50mm)</b>							
4	13.4	15.2	17.9	214	3.9	60	IGH184AA004
12	21.0	23.5	26.7	321	8.3	140	IGH184AA012

# The Olex Cable Range

## Low Voltage power and control cables

Building wires  
Flats  
PVC/PVC SDIs  
XLPE/PVC single cores  
PVC/PVC circulars  
XLPE/PVC multicores  
Armoured PVC/PVC circulars  
Armoured XLPE/PVC multicores  
Multicore control  
Armoured multicore control  
Neutral screened  
Aerial  
Varolex<sup>®</sup> screened VSD/EMC

## Fire performance cables

Pyrolex<sup>™</sup> Ceramifiable<sup>®</sup> Fire Rated (FR)  
– single core ES110  
– multicore ES90  
Fire Safe (FS) power  
Rolling stock  
Locomotive  
Envirolex<sup>®</sup>

## Instrolex<sup>®</sup>

### Instrumentation cables

Overall screened  
Overall screened armoured  
Individual & overall screened  
Individual & overall screened armoured  
Thermocouple extension wire

## Flexible power and control cables

Versolex<sup>®</sup> – XLPE/TPE  
– Power  
– Welding  
– EMC/VSD  
– Submersible  
Flexolex<sup>®</sup> EPR/CPE power  
Titanex  
PVC/PVC power  
PVC/PVC control

## Data & communications cables

Datolex<sup>®</sup> – Security  
– Figure 8  
– Category 5e  
– Coaxial  
Gardolex<sup>™</sup> Garden Lighting  
Audiolex<sup>™</sup> – Speaker  
– Coaxial  
Fibre – Multi Mode  
– Single Mode  
Telephone – Internal  
– External  
Data

## Mining cables (flexible) to-33kV

Reeling and trailing cables  
to AS/NZS 1802 and 2802  
Feeder cables  
Machine cables

## Specialised Industrial cables

Airport lighting cables:  
– Primary and secondary cables  
Automation cables  
Offshore Oil and gas cables  
Defence cables – AO 14,000  
– VG cables  
– Milspec cables  
Rolling stock cables  
Materials handling cables  
Marine cables  
Wind turbine cables  
**HV transmission cables**  
Extra High Voltage U/G XLPE to 330kV  
(joints, terminations, engineering services, condition monitoring)

## Bare overhead conductors

– All Aluminium  
– All Aluminium alloy 1120  
– ACSR  
– Steel earth wire and stay wire  
(galvanised or aluminium clad)

## HV distribution cables

U/G XLPE to 33kV  
Paper insulated lead covered to 33kV  
Aerial bundled cable XLPE to 33kV  
(metallic and non-metallic screened)  
Covered Conductor  
Single Point Suspension

## HV submarine cables

11kV to 33kV (EHV also)  
XLPE, EPR or PILC insulation  
Radial water barrier:  
– Al/HDPE, LAS, stainless steel sheath  
Mechanical protection:  
– Single, double wire armour, HDPE, hessian served



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LOW VOLTAGE



INDUSTRIAL



HIGH VOLTAGE



FIRE RATED



DATA/COMMS



MINING

 **Olex**  
a Nexans company