

2014 EDITION

Nexans New Zealand



Handbook

 Nexans





Safety Warning

Cables are insulated and sheathed with stable materials which may contain certain toxic substances including lead. Insulation and sheathing materials should not be chewed or ingested.

When XLPE coloured cores are exposed to sunlight or outdoors the UV rays will break down the XLPE. Therefore they should be made safe from the effects of the UV by adding some form of UV protection.

Installation

Cables must be installed in accordance with the requirements of the latest issue of AS/NZS 3000 or the appropriate ruling standard in the country of installation. Cables must also be connected by a licensed electrician, as ruled in the state or country of installation.

Olex New Zealand Limited has taken every precaution to ensure that the information contained in the booklet is in line with the requirements of the appropriate New Zealand Standards and correct electrical practice. However, we accept no liability of any kind with respect to the information presented here.

Note


Current carrying capacity tables stated in this handbook have been reproduced from AS/NZS 3008.1.2, with the permission from Standards New Zealand under Copyright Licence 000926.

Electrical Installations – Selection of Cables. Part 1.2: Cables for alternating voltages up to and including 0.6/1 kV – Typical New Zealand Installation conditions.

All information is subject to change without notice.

Supplier Declaration of Conformity (SDoC)

In accordance with ISO/IEC 17050-1:2004

SDoC identification Number¹ -29-20-300	
Issuer details	
Name² (of New Zealand manufacturer or importer)	Contact Address
Olex New Zealand Limited	69 Paraite Road, Bell Block New Plymouth
New Zealand Company Number (if applicable)	
AK/960396	
Telephone	Fax
06 7559800	06 755 9890
Email address	
david.griffiths@nexans.com	
Medium Risk Article – Details³ (Product name, type, rating, brand, model, batch numbers, and serial numbers, as applicable)	
Conduit Wires, Cantol, Cempex, Neutral-Screen, Armoured Mains, Vintols & LV URD	
The medium risk article listed above, fully complies with the standard(s), as listed:-	
Standard number & issue year:-AS/NZS 5000.1 : 2005, AS/NZS 4026 : 2008 Section 4&5, AS/NZS 4961 : 2003 Section 2.	
Standard Title:- Electric cables – Polymeric insulated Part 1: For working voltages up to and including 0.6/1 (1.2) kV. -Electric cables – For underground residential distribution systems. -Electric cables – Polymeric insulated-For distribution and service applications.	
Edition / Amendment status:-	
Or complies with the Conformity Cooperation Agreement - No	
Names and addresses of any testing organisation or body	
Name(s)	Address(es)
Olex New Zealand	69 Paraite Road, Bell Block, New Plymouth
Test Safe Australia	919 Londonderry Road, Londonderry, NSW 2753 Australia
Reference to relevant test reports/certification, and issue date of the reports/certification, that show how compliance is achieved:-	
Report/Certification N°(s)	Issue date(s)
Olex NZ Quality doc # 29-20-300 "QTR Test Report for L-V. Cable to AS/NZS 5000.1"	06/03/2009, Issue 1.0
Olex NZ Quality doc # 29-20-303 "QTR Test Report for L-V. Cable to AS/NZS 4026"	28/04/2010, Issue 1.0
Reference to any management systems involved:-	
Additional ⁴ information	
Declaration	
I hereby declare that the above specified fittings or electrical appliances comply with the requirements of Regulation 83 of the Electricity (Safety) Regulations 2010 <div style="border: 1px solid black; padding: 5px; display: inline-block; margin: 10px 0;"> OLEX (NZ) CANTOL </div> Issuer Identification: (as affixed to the article)	Signed for and on behalf of:
	Olex New Zealand
	Name⁵ & position, as authorized by the issuer
	David Griffiths, Technical Manager
	Signature
	Date
	 12/08/2010

¹ Every declaration of conformity should be uniquely identified.

² The responsible issuer must be unequivocally specified.


³ The "Article" must be unequivocally described so that the declaration of conformity may be related to the article in question. For mass-produced products, it is not necessary to give individual serial numbers. Where variants of an article are to be covered, these must be detailed.

⁴ Text should appear here only if any limitation on the validity of the declaration of conformity and/or any additional information are given.

⁵ Full name and function of the signing person(s) authorised by the issuer's management to sign on its behalf should be given. The number of signatures, or equivalent, included will be the minimum determined by the legal form of the issuer's organization.

Supplier Declaration of Conformity (SDoC)

In accordance with ISO/IEC 17050-1:2004

SDoC identification Number¹ -29-20-301	
Issuer details	
Name² (of New Zealand manufacturer or importer)	Contact Address
Olex New Zealand Limited	69 Paraite Road, Bell Block New Plymouth
New Zealand Company Number (if applicable)	
AK/960396	
Telephone	Fax
06 7559800	06 755 9890
	Email address
	david.griffiths@nexans.com
Medium Risk Article – Details³ (Product name, type, rating, brand, model, batch numbers, and serial numbers, as applicable)	
TPS & REMOLEX	
The medium risk article listed above, fully complies with the standard(s), as listed:-	
Standard number & issue year:-AS/NZS 5000.2: 2006	
Standard Title:-Electric cables – Polymeric insulated Part 2: For working voltages up to and including 450/750V.	
Edition / Amendment status:-	
Or complies with the Conformity Cooperation Agreement - No	
Names and addresses of any testing organisation or body	
Name(s)	Address(es)
Olex New Zealand	69 Paraite Road, Bell Block, New Plymouth
Test Safe Australia	919 Londonderry Road, Londonderry, NSW 2753 Australia
Reference to relevant test reports/certification, and issue date of the reports/certification, that show how compliance is achieved:-	
Report/Certification N^o(s)	Issue date(s)
Olex NZ Quality doc # 29-20-301 “QTR Test Report for L. V. Cable to AS/NZS 5000.2”	11/03/2009, Issue 2.0
Reference to any management systems involved:-	
Additional⁴ information	
Declaration	
<p>I hereby declare that the above specified fittings or electrical appliances comply with the requirements of Regulation 83 of the Electricity (Safety) Regulations 2010</p>	Signed for and on behalf of:
	Olex New Zealand
	Name⁵ & position, as authorized by the issuer
	David Griffiths, Technical Manager
<p>Issuer Identification:</p> <p>(as affixed to the article)</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin-left: 100px;"> <p>OLEX (NZ) Cu Remolex</p> </div>	Signature
	Date
	20/05/2010
	

¹ Every declaration of conformity should be uniquely identified.

² The responsible issuer must be unequivocally specified.

³ The “Article” must be unequivocally described so that the declaration of conformity may be related to the article in question. For mass-produced products, it is not necessary to give individual serial numbers. Where variants of an article are to be covered, these must be detailed.

⁴ Text should appear here only if any limitation on the validity of the declaration of conformity and/or any additional information are given.

⁵ Full name and function of the signing person(s) authorised by the issuer’s management to sign on its behalf should be given. The number of signatures, or equivalent, included will be the minimum determined by the legal form of the issuer’s organization.



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Health & Safety and the environment

Nexans New Zealand regards the health and safety of its staff and environment to the highest degree. With this as a main focus for our business we strive for the highest standard of safety with zero LTI (Loss Time Injury) and zero MTI (Medical Time Injury).

With the help of Nexans Corporate we have implemented internal measures and procedures which have proved we can achieve these standards which are very highly regarded in the industry.

The accreditations to safety and which we have already achieved are:

- AS/NZS ISO 9001:2008
- AS/NZS ISO 14001:2004
- Label EHP Certificate (Environment Highly Protected)
(A site commitment to maintain a strong protection of the environment, in conformity with the management system defined in the Nexans Environment Manual) – Externally audited.
- ACC WSMP Certificate
(ACC Workplace Safety Management Practices)
- Best Practice for manufactured PVC cables.
 - Suitable for installation in Green Star projects
 - A full range of PVC, non-PVC products readily available for Green Star Projects
 - Reduce the environmental and health impacts by using our certified BEP PVC cables
 - We ensure end of life management of the PVC cables, by offering to take back these cables for recycling.
- Nexans New Zealand has signed up for the Canterbury Rebuild Safety Charter. The Safety Charter was developed to create safe working conditions for the Canterbury Rebuild.



**CANTERBURY REBUILD
SAFETY CHARTER**



LOW VOLTAGE

Powering where we live.

Nexans New Zealand has a proud history of cable manufacturing expertise, with more than half a century of experience in the industry. Offering a comprehensive range of low voltage power and control cables, Nexans New Zealand has the cable you need.

Conduit Wires



Standards
AS/NZS 5000.1

Characteristics

Construction characteristics

Conductor material	Copper
Insulation	PVC

Electrical characteristics

Rated Voltage U ₀ /U	0.6/1 kV
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Usage characteristics

Maximum operating temperature	75°C
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Product List

Nexans ref.	Old Code	Area (mm ²)	Insulation Thickness (mm)	Colour	Nom Dia mm	Approx Mass kg/m
V90 Insulation						
BAAP02C1001AABK	1210	1.0*	0.8	BK	2.8	0.02
BAAP02C1001AABE	8153	1.0*	0.8	BU	2.8	0.02
BAAP02C1001AAGN	5984	1.0*	0.8	GN	2.8	0.02
BAAP02C1001AARD	7974	1.0*	0.8	RD	2.8	0.02
BAAP02C1001AAWT	3318	1.0*	0.8	WH	2.8	0.02
BAAP05C1001AABK	8439	1.5	0.8	BK	3.3	0.02
BAAP05C1001AABE	9137	1.5	0.8	BU	3.3	0.02
BAAP05C1001AAHN	3682	1.5	0.6	GNYE	2.8	0.02
BAAP05C1001AARD	7322	1.5	0.8	RD	3.3	0.02
BAAP05C1001AAWT	3317	1.5	0.8	WH	3.3	0.02
BAAP07C1001AABK	2111	2.5	0.8	BK	3.8	0.03
BAAP07C1001AABE	2215	2.5	0.8	BU	3.8	0.03
BAAP07C1001AAHN	3898	2.5	0.7	GNYE	3.6	0.03
BAAP07C1001AARD	5786	2.5	0.8	RD	3.8	0.03
BAAP07C1001AAWT	4732	2.5	0.8	WH	3.8	0.03
BAAP09A1001AABK	8484	4	1.0	BK	4.7	0.06
BAAP09C1001AABE	4640	4	1.0	BU	4.7	0.06
BAAP09C1001AAHN	8495	4	1.0	GNYE	4.7	0.06
BAAP09C1001AARD	6347	4	1.0	RD	4.7	0.06
BAAP09C1001AAWT	8207	4	1.0	WH	4.7	0.06

Continued...

Conduit Wires



Standards
AS/NZS 5000.1

Nexans ref.	Old Code	Area (mm ²)	Insulation Thickness (mm)	Colour	Nom Dia mm	Approx Mass kg/m
V75 Insulation						
BAAP11A1001AABK	7852	6	1.0	BK	5.3	0.08
BAAP11A1001AABE	8105	6	1.0	BU	5.3	0.08
BAAP11A1001AAHN	6112	6	1.0	GNYE	5.3	0.08
BAAP11A1001AARD	9844	6	1.0	RD	5.3	0.08
BAAP11A1001AAWT	4875	6	1.0	WH	5.3	0.08
BAAP13A1001AABK	3271	10	1.0	BK	6.2	0.12
BAAP13A1001AABE	8883	10	1.0	BU	6.2	0.12
BAAP13A1001AAHN	3513	10	1.0	GNYE	6.2	0.12
BAAP13A1001AARD	8770	10	1.0	RD	6.2	0.12
BAAP13A1001AAWT	4096	10	1.0	WH	6.2	0.12
BAAP15AA001AABK	7077	16	1.0	BK	7.2	0.18
BAAP15AA001AABE	7481	16	1.0	BU	7.2	0.18
BAAP15AA001AAHN	4462	16	1.0	GNYE	7.3	0.18
BAAP15AA001AARD	1499	16	1.0	RD	7.2	0.18
BAAP15AA001AAWT	3114	16	1.0	WH	7.2	0.18
BAAP16AA001AACX	3897	25	1.2	BK	8.9	0.28
BAAP16AA001AABF	5672	25	1.2	BU	8.9	0.28
BAAP16AA001AAHT	6320	25	1.2	GNYE	8.9	0.28
BAAP16AA001AAJB	3825	25	1.2	RD	8.9	0.28
BAAP16AA001AAWV	7361	25	1.2	WH	8.9	0.28
BAAP18AA001AACX	7395	35	1.2	BK	10.1	0.38
BAAP18AA001AABF	8067	35	1.2	BU	10.1	0.38
BAAP18AA001AAHT	2057	35	1.2	GNYE	10.1	0.38
BAAP18AA001AAJB	4928	35	1.2	RD	10.1	0.38
BAAP18AA001AAWV	9190	35	1.2	WH	10.1	0.38
BAAP19AA001AAHT	9988	50	1.4	GNYE	11.8	0.51
BAAP20AA001AAHT	5680	70	1.4	GNYE	13.5	0.72
BAAP21AA001AAHT	5987	95	1.6	GNYE	15.8	1.00
BAAP23AA001AAHT	7379	120	1.6	GNYE	17.5	1.23

* Solid Conductor

Note:

- Conductors 1.5 mm² and above are circular stranded.
- Standard colours: Red, White, Blue, Black, Green/Yellow (other colours can be supplied if required).
- Subject to confirmation, similar cables can be manufactured to other specifications.

Cu Strand – Soft Drawn



Standards
AS/NZS 1125

Characteristics

Construction characteristics

Conductor material

Copper

Product List

Nexans ref.	Old Code	Area (mm ²)	Nom Dia mm	Pack size	Approx Mass kg/m
ACUP15AA001AAAA	1641	16	5.0	500	0.15
ACUP17AA001AAAA	9211	25	6.3	500	0.23
ACUP18AA001AAAA	9733	35	7.6	500	0.32
ACUP19AA001AAAA	5979	50	8.8	500	0.43
ACUP20AA001AAAA	3350	70	10.5	500	0.62
ACUP21AA001AAAA	7934	95	12.4	500	0.86
ACUP23AA001AAAA	5301	120	14.1	500	1.09

Single Core TPS



Standards
AS/NZS 5000.2

Characteristics

Construction characteristics

Conductor material	Copper
Insulation	PVC
Outer sheath	PVC

Electrical characteristics

Rated Voltage U ₀ /U	450/750 V
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Usage characteristics

Maximum operating temperature	75°C
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Product List

Nexans ref.	Old Code	Area (mm ²)	Colour	Nom Dia mm	Gland Size A2 or A2F	Approx Mass kg/m
AABP02A1001WVRD	1176	1.0 *	RD WH	3.8	20S/16	0.03
AABQ05A1001WVBK	9050	1.5	BK WH	4.4	20S/16	0.04
AABQ05A1001WVRD	6766	1.5	RD WH	4.4	20S/16	0.04
AABP07A1001WVBK	7923	2.5	BK WH	4.9	20S/16	0.05
AABP07A1001WVRD	1635	2.5	RD WH	4.9	20S/16	0.05
AABP09A1001WVBK	7242	4	BK WH	6.0	20S/16	0.07
AABP09A1001WVRD	2889	4	RD WH	6.0	20S/16	0.07
AABP11A1001WVBK	8579	6	BK WH	6.5	20S/16	0.10
AABP11A1001WVRD	5022	6	RD WH	6.5	20S/16	0.10
AABP13A1001WVBK	1343	10	BK WH	7.8	20S/16	0.15
AABP15A1001WVBK	1121	16	BK WH	9.3	20S	0.22
AABP15A1001WVRD	2627	16	RD WH	9.3	20S	0.22

Note: Conductors 1.5mm² and above are circular stranded

* Solid Conductor

Two Core TPS



Standards
AS/NZS 5000.2

Characteristics

Construction characteristics

Conductor material	Copper
Insulation	PVC
Outer sheath	PVC

Electrical characteristics

Rated Voltage U _o /U	450/750 V
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Usage characteristics

Maximum operating temperature	75°C
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Product List

Nexans ref.	Old Code	Cores x Area (mm ²)	Colour	Nom Dia mm	Approx Mass kg/m
Two Core					
CACP02A1002JBHF	8757	2 x 1.0 *	RD	4.0 x 6.3	0.05
CACQ05A1002JBHF	1049	2 x 1.5	RD	4.7 x 7.4	0.07
CACQ05A1002WVHF	7373	2 x 1.5	WH	4.7 x 7.4	0.07
CACP05AA002ASWV	2651	2 x 1.5	WH (R+R)	4.7 x 7.4	0.07
CACP07A1002JBHF	8313	2 x 2.5	RD	5.3 x 8.7	0.10
CACP07A1002WVHF	9880	2 x 2.5	WH	5.3 x 8.7	0.10
CACP09A1002WVHF	5212	2 x 4	WH	6.3 x 10.5	0.15
CACP11A1002WVHF	8552	2 x 6	WH	7.0 x 11.6	0.20
CACP15AA002CXHF	6331	2 x 16	BK	10.0 x 17.2	0.46
DACP16AA002WVHF	3816	2 x 25	WH	11.8 x 20.8	0.73
QCPP15AA002CXHF	1291	2 x 16 + 2.5 P	BK	9.9 x 20.4	0.50
QCQP16AA002CXHF	2399	2 x 25 + 4 P	BK	11.8 x 24.8	0.77
Two Core Plus Earth					
CNZP02A1002WVHF	9779	2 x 1.0 + 1.0 E*	WH	4.0 x 8.6	0.07
CNZQ05A1002WVHF	2521	2 x 1.5 + 1.5 E	WH	4.7 x 10.2	0.09
CNZP07A1002WVHF	1080	2 x 2.5 + 2.5 E	WH	5.3 x 12.0	0.14
CNZP09A1002WVHF	6646	2 x 4 + 2.5 E	WH	6.4 x 14.8	0.19
CNZP11AA002WVHF	3146	2 x 6 + 2.5 E	WH	6.9 x 16.4	0.27
CNZP13EC002WVHF	4121	2 x 10 + 4 E	WH	8.5 x 20.4	0.42
CNZP15AA002CXHF	6565	2 x 16 + 6 E	BK	9.9 x 24.3	0.63

Note: Conductors 1.5mm² and above are circular stranded

* Solid Conductor

Three & Four Core TPS



Standards
AS/NZS 5000.2

Characteristics

Construction characteristics

Conductor material	Copper
Insulation	PVC
Outer sheath	PVC

Electrical characteristics

Rated Voltage U ₀ /U	450/750 V
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Usage characteristics

Maximum operating temperature	75°C
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Product List

Nexans ref.	Old Code	Cores x Area (mm ²)	Colour	Nom Dia mm	Approx Mass kg/m
Three Core					
EACP02A1003YXRJ	5510	3 x 1.0 *	YE	4.0 x 8.6	0.07
EACQ05A1003YXRJ	3171	3 x 1.5	YE	4.6 x 10.2	0.09
Three Core Plus Earth					
ENZP02A1003WVRJ	1719	3 x 1.0 + 1.0 E*	WH	4.0 x 10.9	0.09
ENZQ05A1003WVRJ	4191	3 x 1.5 + 1.5 E	WH	4.7 x 13.0	0.12
ENZP07A1003WVRJ	4169	3 x 2.5 + 2.5 E	WH	5.3 x 15.4	0.18
ENZP09A1004WVPF	1103	3 x 4 + 2.5 E	WH	6.5 x 19.1	0.29
ENZP11AA003WVRJ	1529	3 x 6 + 2.5 E	WH	7.2 x 21.4	0.38
Four Core					
GACP07A1004WVEM	2305	4 x 2.5	WH	5.3 x 15.4	0.18

Note: Conductors 1.5mm² and above are circular stranded

* Solid Conductor



Characteristics

Construction characteristics

Conductor material	Copper
Insulation	X-HF-90
Outer sheath	HFS-90-TP

Electrical characteristics

Rated Voltage U ₀ /U	450/750 V
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Usage characteristics

Maximum operating temperature	90°C
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Product List

Nexans ref.	Old Code	Cores x Area (mm ²)	Nom Dia mm	Approx Mass kg/m
Two Core Plus Earth				
CTCP05J5002GGHF	1462	2 x 1.5 + 1.5 E	4.6 x 10.0	0.07
CTCP07J5002GGHF	6724	2 x 2.5 + 2.5 E	5.3 x 11.7	0.11
CTCP09J1002GGHF	3334	2 x 4 + 2.5 E	6.2 x 13.4	0.15
CTCP11J1002GGHF	3404	2 x 6 + 2.5 E	6.8 x 14.5	0.19
Three Core				
ECEP05J1003GGRJ	4818	3 x 1.5	4.6 x 10.0	0.07


Characteristics

Construction characteristics	
Conductor material	Copper
Type of conductor	Circular Stranded
Insulation	PVC
Outer Sheath	PVC
Electrical characteristics	
Rated Voltage Uo/U	450/750 V
Usage characteristics	
Maximum operating temperature	75°C

Product List

Nexans ref.	Old Code	Cores x Area (mm ²)	Nom Dia mm	Gland Size A2 or A2F	Approx Mass kg/m
Two Core Plus Earth					
CNHQ05AA002CXHF	4948	2 x 1.5 + 1.5 E	8.9	20S	0.12
CNHP07AA002CXHF	5312	2 x 2.5 + 2.5 E	10.0	20S	0.17
CNHP09AA002CXHF	1024	2 x 4 + 2.5 E	11.3	20	0.21
CNHP11AA002CXHF	2160	2 x 6 + 2.5 E	12.2	20	0.26
Three Core Plus Earth					
ENHQ05AA003CXRJ	3145	3 x 1.5 + 1.5 E	9.7	20S	0.15
ENHP07AA003CXRJ	6978	3 x 2.5 + 2.5 E	11.0	20S	0.21
ENHP09AA003CXRJ	1750	3 x 4 + 2.5 E	12.4	20	0.27
ENHP11AA003CXRJ	8214	3 x 6 + 2.5 E	14.6	25	0.40
ENHP13AA003CXRJ	7025	3 x 10 + 4 E	16.6	25	0.54
ENHP15AA003CXRJ	5101	3 x 16 + 6 E	20.7	32	0.81
Four Core Plus Earth					
GNHQ05AA004CXEM	4131	4 x 1.5 + 1.5 E	10.6	20	0.18
GNHP07AA004CXEM	7325	4 x 2.5 + 2.5 E	12.1	25	0.25
GNHP09AA004CXEM	9465	4 x 4 + 2.5 E	14.0	25	0.34
HNHP11AA004CXEM	2017	4 X 6 +2.5 E	17.0	25	0.43

Core Colours

No. Cores	Colour
3	RD, BK, GNYE
4	RD, WH, BU, GNYE
5	RD, WH, BU, BK, GNYE



Characteristics

Construction characteristics

Conductor material	Copper
Insulation	XLPE
Outer Sheath	PVC

Electrical characteristics

Rated Voltage U _o /U _i (Um)	0.6/1 (1.2) kV
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Usage characteristics

Maximum operating temperature	90°C
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Product List

Nexans ref.	Old Code	Cores x Area (mm ²)	Nom Dia mm	Gland Size A2 or A2F	Approx Mass kg/m
Three Core Plus Earth					
FTHC17AA003CXRJ	1701	3 x 25 ^ + 6 E	21.6	32	1.01
FTHC38AA003CXRJ	5200	3 x 35 ^ + 10 E	24.1	32	1.37
FTHC19AA003CXRJ	6560	3 x 50 ^ + 16 ^ E	27.2	40	1.82
-	1530	3 x 70 ^ + 25 ^ E	31.2	40	2.59
Four Core Plus Earth					
HTHP13AA004CXEM	2658	4 x 10 + 4 E	19.2	25	0.66
HTHP15AA004CXEM	7656	4 x 16 ^ + 6 E	21.5	32	0.90
HTHC17AA004CXEM	5243	4 x 25 ^ + 6 E	23.9	32	1.29
HTHC18AA004CXEM	2230	4 x 35 ^ + 10 E	26.8	40	1.74
HTHC19AA004CXEM	2403	4 x 50 ^ + 16 ^ E	30.3	40	2.32
HTHC20AA004CXEM	2060	4 x 70 ^ + 25 ^ E	34.9	50S	3.20
HTHC21AA004CXEM	7214	4 x 95 ^ + 25 ^ E	39.1	50	4.36

Core Colours

No. Cores	Colour
4	RD, WH, BU, GNYE
5	RD, WH, BU, BK, GNYE

Note: ^ Conductors 16mm² and above are compact circular stranded.
Conductors 10mm² and below are circular stranded

Cu Distribution



Standards
Customer Specification

Characteristics

Construction characteristics

Conductor material	Copper
Type of conductor	Circular, stranded
Insulation	XLPE
Outer Sheath	PVC

Electrical characteristics

Rated Voltage U ₀ /U (Um)	0.6/1 (1.2) kV
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Usage characteristics

Maximum operating temperature	90°C
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Product List

Nexans ref.	Old Code	Cores x Area (mm ²)	Nom Dia mm	Approx Mass kg/m
Conductor Size 16 mm²				
DEVP15VT002CXHF	6988	2 x 16	19.1	0.37
HEVP15VT004CXEM	3996	4 x 16	22.5	0.87
Conductor Size 25 mm²				
DEVC16VT002CXHF	3799	2 x 25	23.2	0.73
HEVC16VT004CXEM	9663	4 x 25	25.8	1.29
Conductor Size 35 mm²				
DEVC38VT002CXHF	1005	2 x 35	24.0	0.84

Core Colours

No. Cores	Colour
2	RD, BK
4	RD, WH, BU, BK

AI Neutral Screen



Standards
AS/NZS 4961

Characteristics

Construction characteristics

Conductor material	Aluminium
Insulation	XLPE
Screen	Copper Wire
Outer Sheath	PVC

Electrical characteristics

Rated Voltage U ₀ /U (Um)	0.6/1 (1.2) kV
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Usage characteristics

Maximum operating temperature	90°C
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Product List

Nexans ref.	Old Code	Area (mm ²)	Nom Dia mm	Approx Mass kg/m
Single Core				
BDGH20PX001CXRD	9123	1 x 70 ^	21.5	0.89
BDGH21PX001CXRD	1369	1 x 95 ^	23.9	1.15
BDGH43PX001CXRD	6550	1 x 120 ^	26.2	1.41
BDGH25PX001CXRD	5150	1 x 185 ^	31.4	2.08
Single Core Plus Pilot				
QDQH20PX001CXRD	5808	1 x 70 ^ + 4 P	29.2 x 21.9	1.06
Three Core				
FEGH38PX003CXRJ	6229	3 x 35	28.1	1.00
FEGH39PX003CXRJ	1039	3 x 50	31.0	1.24
FEGG20PX003CXRJ	8351	3 x 70	32.3	1.56
FEGG21PX003CXRJ	8365	3 x 95	35.9	2.01
Three Core Plus Pilot				
QDZG23PX003CXRJ	3164	3 x 120 + 10	39.6	2.59
QDZG25PX003CXRJ	4774	3 x 185 + 10	48.5	3.79
QDZG27PX003CXRJ	1891	3 x 300 + 10	57.7	5.76

Core Colours

No. Cores	Colour
3	RD, WH, BU
3 (plus Pilot)	RD, WH, BU, OG
4	RD, WH, BU, BK

Note: Single core ^ - Conductors are compact circular stranded
Three Core – Conductors are shaped stranded

PVC Neutral Screen



Standards
AS/NZS 4961

Characteristics

Construction characteristics

Conductor material	Copper
Type of conductor	Circular, stranded
Insulation	PVC
Screen	Copper Wire
Outer Sheath	PVC

Electrical characteristics

Rated Voltage U ₀ /U (Um)	0.6/1 (1.2) kV
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Usage characteristics

Maximum operating temperature	75°C
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Product List

Nexans ref.	Old Code	Area (mm ²)	Nom Dia mm	Gland Size CX	A2/A2F	Approx Mass kg/m
Single Core						
BAGP09PX001CXRD	5643	1 x 4	12.5	20S	20	0.24
BAGP11PX001CXRD	6102	1 x 6	13.0	20S	25	0.28
BAGP13PX001CXRD	2850	1 x 10	14.2	20S	25	0.38
BAGP15PX001CXRD	3358	1 x 16	15.9	20	25	0.51
BAGP16PX001CXRD	4061	1 x 25	18.2	20	25	0.74
BAGP18PX001CXRD	4620	1 x 35	19.4	20	25	0.96
BAGP19PX001CXRD	1682	1 x 50	21.8	25	32	1.22
Single Core Plus Pilot						
QDBP15PX001CXRD	7817	1 x 16 + 4 P	15.5 x 22.5			0.67
QDBP16PX001CXRD	6998	1 x 25 + 4 P	17.6 x 26.4			0.94
Two Core						
DAEP07AA002CXAB	4097	2 x 2.5	8.6 x 12.4			0.20
DAEP09AA002CXAB	2267	2 x 4	9.6 x 14.2			0.26
DAEP11AA002CXAB	6092	2 x 6	10.1 x 15.4			0.32
DAEP13PX002CXAB	6585	2 x 10	14.1 x 20.1			0.56
DAEP15PX002CXAB	1520	2 x 16	15.5 x 22.5			0.76
DAEP17PX002CXAB	5242	2 x 25	17.6 x 26.4			1.10
DAEP18PX002CXAB	2135	2 x 35	18.8 x 28.9			1.40
Two Core Plus Pilot						
QDIP15PX002CXAB	7286	2 x 16 + 4 P	23.4	25	32	0.92

Continued...

PVC Neutral Screen



Standards
AS/NZS 4961

Nexans ref.	Old Code	Area (mm ²)	Nom Dia mm	Gland Size CX	A2/A2F	Approx Mass kg/m
Three Core						
FAGP07AA003CXRJ	2307	3 x 2.5	13.3	20S	20	0.26
FAGP09AA003CXRJ	4895	3 x 4	15.1	20S	25	0.35
FAGP11AA003CXRJ	5156	3 x 6	16.2	20	25	0.45
FAGP13PX003CXRJ	6337	3 x 10	21.0	25	32	0.74
FAGP15PX003CXRJ	1267	3 x 16	23.6	25	32	1.01
Four Core						
HAGP07AA004CXEM	8291	4 x 2.5	14.2	20S	25	0.31
HAGP09AA004CXEM	6562	4 x 4	16.4	20	25	0.43
HAGP11AA004CXEM	2811	4 x 6	17.6	20	25	0.53
HAGP13PX004CXEM	7823	4 x 10	22.6	25	32	0.88

Core Colours

No. Cores	Colour
1	RD
1 (Plus Pilot)	RD, OG
2	RD, WH
2 (Plus Pilot)	RD, WH, OG
3	RD, WH, BU
4	RD, WH, BU, BK

Note: 3.2mm Sheath

XLPE Neutral Screen



Standards
AS/NZS 4961

Characteristics

Construction characteristics	
Conductor material	Copper
Insulation	XLPE
Screen	Copper Wire
Outer Sheath	PVC
Electrical characteristics	
Rated Voltage U ₀ /U (Um)	0.6/1 (1.2) kV
Usage characteristics	
Maximum operating temperature	90°C

Product List

Nexans ref.	Old Code	Area (mm ²)	Nom Dia mm	Gland Size CX/Z	A2	Approx Mass kg/m
Three Core						
FEGC16PX003CXRJ	8090	3 x 25 ^	25.4	25	32	1.35
FEGV18PX003CXRJ	3281	3 x 35	26.1	32	40	1.72
FEGV19PX003CXRJ	4140	3 x 50	29.4	32	40	2.25
FEGV20PX003CXRJ	1616	3 x 70	33.5	40	50S	3.12
FEGV21PX003CXRJ	7500	3 x 95	37.1	40	50S	4.18
Three Core Plus Pilot						
QDXP15AA003CXRJ	5687	3 x 16 + 4 P*	24.8	25	32	1.05
Four Core						
HEGP15PX004CXEM	7626	4 x 16 *	24.7	25	32	1.13
HEGC17PX004CXEM	1559	4 x 25 ^	27.9	32	40	1.65
HEGV35PX004CXEM	3176	4 x 35	29.5	32	40	2.11
HEGV36PX004CXEM	7610	4 x 50	33.0	32	50S	2.78
HEGV20PX004CXEM	5203	4 x 70	37.1	40	50S	3.85
HEGV21PX004CXEM	6214	4 x 95	40.3	50S	50	5.15

Core Colours

No. Cores	Colour
3	RD, WH, BU
3 (Plus Pilot)	RD, WH, BU, OG
4	RD, WH, BU, BK

Note: Conductors 35mm² and above are shaped stranded.

* Circular Stranded

^ Compact stranded

Cu Cantols



Standards
AS/NZS 5000.1

Characteristics

Construction characteristics

Conductor material	Copper
Type of conductor	Circular compacted stranded
Insulation	XPLE
Outer Sheath	PVC

Electrical characteristics

Rated Voltage U ₀ /U (Um)	0.6/1 (1.2) kV
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Usage characteristics

Maximum operating temperature	90°C
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Product List

Nexans ref.	Old Code	Area (mm ²)	Nom Dia mm	Gland Size A2 or A2F	Approx Mass kg/m
BDBP15AA001CXNA	5373	16	9.8	20S	0.21
BDBC17AA001CXNA	4676	25	10.9	20S	0.31
BDBC18AA001CXNA	8252	35	12.0	20	0.41
BDBC19AA001CXNA	8881	50	13.3	20	0.54
BDBC20AA001CXNA	2893	70	15.0	25	0.75
BDBC21AA001CXNA	5689	95	16.9	25	1.01
BDBC23AA001CXNA	2440	120	18.6	25	1.27
BDBC44AA001CXNA	4778	150	20.6	32	1.55
BDBC25AA001CXNA	2081	185	22.8	32	1.93
BDBC26AA001CXNA	2038	240	25.5	32	2.50
BDBC47AA001CXNA	5941	300	28.1	40	3.11
BDBC28AA001CXNA	2640	400	31.8	50S	3.96
BDBC30AA001CXNA	2340	500	35.7	50S	4.98
BDBC32AA001CXNA	4711	630	40.2	50	6.40

Cu Vintols



Standards
AS/NZS 5000.1

Characteristics

Construction characteristics	
Conductor material	Copper
Type of conductor	Circular, stranded
Insulation	PVC
Outer Sheath	PVC
Electrical characteristics	
Rated Voltage U ₀ /U	0.6/1 (1.2) kV
Usage characteristics	
Maximum operating temperature	75°C

Product List

Nexans ref.	Old Code	Area (mm ²)	Sheath	Nom Dia mm	Gland Size A2 or A2F	Approx Mass kg/m
BABP09AA001OMNA	2642	4	OG	7.7	20S/16	0.10
BABP15AA001CXNA	5560	16	BK	10.0	20	0.23
BABP15AA001BFNA	3818	16	BU	10.0	20	0.23
BABP15AA001JBNA	4354	16	RD	10.0	20	0.23
BABP15AA001WVNA	8131	16	WH	10.0	20	0.23
BABP16AA001CXNA	8124	25	BK	11.8	20	0.35
BABP16AA001BFNA	4321	25	BU	11.8	20	0.35
BABP16AA001JBNA	7522	25	RD	11.8	20	0.35
BABP16AA001WVNA	6139	25	WH	11.8	20	0.35
BABP18AA001CXNA	3844	35	BK	13.0	20	0.45
BABP18AA001BFNA	9624	35	BU	13.0	20	0.45
BABP18AA001JBNA	8058	35	RD	13.0	20	0.45
BABP18AA001WVNA	8224	35	WH	13.0	20	0.45
BABP20AA001CXNA	1693	70	BK	16.4	25	0.82
BABP20AA001BFNA	7116	70	BU	16.4	25	0.82
BABP20AA001JBNA	8611	70	RD	16.4	25	0.82
BABP20AA001WVNA	9981	70	WH	16.4	25	0.82

Al Cantols



Standards
AS/NZS 5000.1

Characteristics

Construction characteristics

Conductor material	Aluminium
Type of conductor	Circular compacted stranded
Insulation	XLPE
Outer Sheath	PVC

Electrical characteristics

Rated Voltage U ₀ /U (Um)	0.6/1 (1.2) kV
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Usage characteristics

Maximum operating temperature	90°C
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Product List

Nexans ref.	Old Code	Area (mm ²)	Nom Dia mm	Gland Size A2 or A2F	Approx Mass kg/m
BDBH20AA001CXNA	7763	70	15.0	25	0.32
BDBH21AA001CXNA	1879	95	16.9	25	0.42
BDBH43AA001CXNA	9269	120	18.5	25	0.51
BDBH44AA001CXNA	7344	150	20.6	32	0.62
BDBH25AA001CXNA	3244	185	22.8	32	0.76
BDBH26AA001CXNA	2974	240	25.5	32	0.97
BDBH27AA001CXNA	8270	300	27.9	40	1.19
BDBH28AA001CXNA	4468	400	31.3	40	1.50
BDBH30AA001CXNA	4658	500	35.0	50S	1.87
BDBH32AA001CXNA	8554	630	39.4	50	2.38
BDBH33AA001CXNA	4864	800	44.7	63S	3.01

Al Vintols



Standards
AS/NZS 5000.1

Characteristics

Construction characteristics	
Conductor material	Aluminium
Type of conductor	Circular, stranded (up to 185mm ²) Compact, Circular Stranded (240mm ²)
Insulation	PVC
Outer Sheath	PVC
Electrical characteristics	
Rated Voltage U ₀ /U (Um)	0.6/1 (1.2) kV
Usage characteristics	
Maximum operating temperature	75°C

Product List

Nexans ref.	Old Code	Area mm ²	Sheath	Nom Dia mm	Gland Size A2 or A2F	Approx Mass kg/m
BABA20AA001CXNA	2877	70	BK	16.4	25	0.39
BABA20AA001BFNA	2684	70	BU	16.4	25	0.39
BABA20AA001JBNA	8949	70	RD	16.4	25	0.39
BABA20AA001WVNA	3493	70	WH	16.4	25	0.39
BABA21AA001CXNA	5065	95	BK	19.0	25	0.52
BABA21AA001BFNA	8568	95	BU	19.0	25	0.52
BABA21AA001JBNA	5433	95	RD	19.0	25	0.52
BABA21AA001WVNA	8295	95	WH	19.0	25	0.52
BABA23AA001CXNA	4679	120	BK	20.7	32	0.62
BABA23AA001BFNA	7218	120	BU	20.7	32	0.62
BABA23AA001JBNA	5360	120	RD	20.7	32	0.62
BABA23AA001WVNA	3709	120	WH	20.7	32	0.62
BABA25AA001CXNA	6464	185	BK	25.1	32	0.92
BABA25AA001BFNA	9940	185	BU	25.1	32	0.92
BABA25AA001JBNA	7192	185	RD	25.1	32	0.92
BABA25AA001WVNA	4079	185	WH	25.1	32	0.92
BABH26AA001CXNA	6944	240	BK	26.8	40	1.11
BABH26AA001BFNA	4464	240	BU	26.8	40	1.11
BABH26AA001JBNA	2929	240	RD	26.8	40	1.11
BABH26AA001WVNA	5520	240	WH	26.8	40	1.11

Single Core Aluminium



Standards
AS/NZS 5000.1

Characteristics

Construction characteristics

Conductor material	Aluminium
Type of conductor	Circular, stranded
Insulation	PVC
Outer Sheath	PVC

Electrical characteristics

Rated Voltage U ₀ /U (Um)	0.6/1 (1.2) kV
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Usage characteristics

Maximum operating temperature	75°C
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Product List

Nexans ref.	Old Code	Conductor Code Name	Area mm ²	Sheath	Nom Dia mm	Approx Mass kg/m
BABA42AA001CXNA	5998	Namu	24	BK	11.8	0.19
BABA42AA001JBNA	4358	Namu	24	RD	11.8	0.19
BABA42AA001PPNA	7436	Namu	24	VT	11.8	0.19
BABA44AA001CXNA	4762	Kutu	49	BK	14.9	0.32
BABA44AA001BFNA	2739	Kutu	49	BU	14.9	0.32
BABA44AA001JBNA	3369	Kutu	49	RD	14.9	0.32
BABA44AA001WVNA	5771	Kutu	49	WH	14.9	0.32
BABA46AA001CXNA	1994	Beetle	106	BK	19.8	0.57
BABA46AA001BFNA	4369	Beetle	106	BU	19.8	0.57
BABA46AA001JBNA	3177	Beetle	106	RD	19.8	0.57
BABA46AA001WVNA	4847	Beetle	106	WH	19.8	0.57
BABA47AA001CXBK	5622	Weta	167	BK BK	23.6	0.82
BABA47AA001CXRD	3863	Weta	167	RD BK	23.6	0.82

AI URD Cables



Standards
AS/NZS 4026

Characteristics

Construction characteristics

Conductor material	Aluminium
Type of conductor	Shaped, stranded
Insulation	XLPE
Outer Sheath	PVC

Electrical characteristics

Rated Voltage U ₀ /U (U _m)	0.6/1 (1.2) kV
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Usage characteristics

Maximum operating temperature	90°C
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Product List

Nexans ref.	Old Code	Cores x Area mm ²	Nom Dia mm	Approx Mass kg/m
XDDH39AA004CXAA	8086	4 x 50 ^	29.1	0.94
XDDG20AA004CXAA	6325	4 x 70	31.4	1.25
XDDG21AA004CXAA	4388	4 x 95	36.0	1.62
XDDG23AA004CXAA	2221	4 x 120	39.1	1.99
XDDG25AA004CXAA	8674	4 x 185	48.9	3.10
XDDG26AA004CXAA	5423	4 x 240	54.6	3.91
XDDG27AA004CXAA	4514	4 x 300	60.2	4.87

Note: ^ Compact circular stranded

PVC Armoured Mains



Standards
AS/NZS 5000.1

Characteristics

Construction characteristics

Conductor material	Copper
Type of conductor	Circular stranded (up to 16mm ²) Shaped stranded (25mm ²)
Insulation	PVC
Bedding	Extruded PVC
Armour Type	Galvanised Steel Wires
Outer Sheath	PVC

Electrical characteristics

Rated Voltage U ₀ /U (Um)	0.6/1 (1.2) kV
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Usage characteristics

Maximum operating temperature	75°C
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Product List

Nexans ref.	Old Code	Cores x Area (mm ²)	Nom Dia mm	Gland Size CW or E1FW	Approx Mass kg/m
Two Core Plus Earth					
DNMP07AA002CXHF	1993	2 x 2.5 + 2.5 E	15.8	20	0.55
Three Core					
FAMP07AA003CXRJ	4044	3 x 2.5	15.8	20	0.48
FAMP09AA003CXRJ	9512	3 x 4	18.5	20	0.71
FAMP11AA003CXRJ	1341	3 x 6	19.7	20	0.83
FAMP13AA003CXRJ	6770	3 x 10	21.6	25	1.04
FAMP15AA003CXRJ	4898	3 x 16	23.8	25	1.26
FAMV16AA003CXRJ	4566	3 x 25	26.0	32	1.77
Four Core					
HAMP07AA004CXEM	6865	4 x 2.5	16.7	20	0.54
HAMP09AA004CXEM	2462	4 x 4	19.7	25	0.81
HAMP11AA004CXEM	5161	4 x 6	21.1	25	0.96

Core Colours

No. Cores	Colour
2 (Plus earth)	RD, BK, GNYE
3	RD, WH, BU
4	RD, WH, BU, BK

XLPE Armoured Mains



Standards
AS/NZS 5000.1

Characteristics

Construction characteristics

Conductor material	Copper
Insulation	XLPE
Bedding	Extruded PVC
Armour Type	Galvanised Steel Wires
Outer Sheath	PVC

Electrical characteristics

Rated Voltage U ₀ /U (Um)	0.6/1 (1.2) kV
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Usage characteristics

Maximum operating temperature	90°C
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Product List

Nexans ref.	Old Code	Cores x Area (mm ²)	Nom Dia mm	Gland Size CW or E1FW	Approx Mass Kg/m
Four Core					
HEMP15AA004CXEM	3578	4 x 16 *	25.1	25	1.39
HEMC16AA004CXEM	5789	4 x 25	28.3	32	2.03
HEMV35AA004CXEM	8874	4 x 35	29.9	32	2.47
HEMV36AA004CXEM	1346	4 x 50	33.0	32	3.11
HEMV20AA004CXEM	7912	4 x 70	38.3	40	4.41
HEMV24AA004CXEM	1225	4 x 150	54.1	63S	8.85
HEMV25AA004CXEM	6541	4 x 185	57.6	63S	10.55

Core Colours

No. Cores	Colour
4	RD, WH, BU, BK

Note: Conductors 25 mm² and above are shaped stranded.

* Circular stranded

Control Cables



Standards
AS/NZS 5000.3

Characteristics

Construction characteristics	
Conductor material	Copper
Insulation	PVC (numbered Cores)
Outer Sheath	PVC
Electrical characteristics	
Rated Voltage U ₀ /U	450/750 V
Usage characteristics	
Maximum operating temperature	75°C

Product List

Nexans ref.	Old Code	Cores x Area (mm ²)	Nom Dia mm	Gland Size A2 or A2F	Approx Mass kg/m
Conductor Size 1.5 mm²					
CAHQ05AA002CXWW	2481	2 x 1.5	8.5	20S	0.11
EAHQ05AA003CXWW	1134	3 x 1.5	8.9	20S	0.12
GAHQ05AA004CXWW	4258	4 x 1.5	9.7	20S	0.15
APAQ05AA007CXWW	4511	7 x 1.5	11.7	20	0.23
APAQ05AA012CXWW	8983	12 x 1.5	15.3	25	0.38
APAQ05AA019CXWW	3593	19 x 1.5	18.1	25	0.56
APAQ05AA027CXWW	5035	27 x 1.5	22.0	32	0.75
APAQ05AA037CXWW	4595	37 x 1.5	24.6	32	0.99
Conductor Size 2.5 mm²					
CAHP07AA002CXWW	4014	2 x 2.5	9.6	20S	0.14
EAHP07AA003CXWW	1328	3 x 2.5	10.2	20S	0.17
GAHP07AA004CXWW	4089	4 x 2.5	11.3	20	0.21
APAP07AA007CXWW	2943	7 x 2.5	13.3	25	0.32
APAP07AA012CXWW	2452	12 x 2.5	17.9	25	0.55
APAP07AA019CXWW	7667	19 x 2.5	21.1	32	0.80

Armoured Control Cables



Standards
BS 6346

Characteristics

Construction characteristics

Conductor material	Copper
Insulation	PVC
Bedding	Extruded PVC
Armour Type	Galvanised Steel Wires
Outer Sheath	PVC

Electrical characteristics

Rated Voltage U ₀ /U (Um)	0.6/1 (1.2) kV
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Usage characteristics

Maximum operating temperature	75°C
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Product List

Nexans ref.	Old Code	Cores x Area (mm ²)	Nom Dia mm	Gland Size CW or E1FW	Approx Mass kg/m
Conductor Size 1.5 mm²					
DAMQ05NG002CXWW	7655	2 x 1.5	12.4	20S	0.32
FAMQ05NG003CXWW	2059	3 x 1.5	12.9	20S	0.33
HAMQ05NG004CXWW	5841	4 x 1.5	13.7	20S	0.38
BPCQ05NG007CXWW	6688	7 x 1.5	15.4	20	0.49
BPCQ05NG012CXWW	5505	12 x 1.5	19.7	25	0.85
BPCQ05NG019CXWW	2581	19 x 1.5	22.5	25	1.09
BPCQ05NG027CXWW	1421	27 x 1.5	27.5	32	1.57
Conductor Size 2.5 mm²					
FAMP07NG003CXWW	2721	3 x 2.5	14.1	20S	0.41
HAMP07NG004CXWW	5326	4 x 2.5	15.0	20S	0.47
BPCP07NG007CXWW	7223	7 x 2.5	18.0	20	0.73
BPCP07NG012CXWW	4840	12 x 2.5	22.3	25	1.08
BPCP07NG019CXWW	4606	19 x 2.5	26.6	32	1.62
BPCP07NG027CXWW	1848	27 x 2.5	31.2	32	2.05
BPCP07NG037CXWW	7377	37 x 2.5	34.4	40	2.52

Irrigation Cable - Single Core



Standards
AS/NZS 5000.1

Characteristics

Construction characteristics

Conductor material	Annealed Copper
Insulation	PP (polypropylene)

Electrical characteristics

Maximum operating voltage	50 VAC / 120 VDC
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Usage characteristics

Maximum operating temperature	80°C
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Product List

Nexans ref.	Old Code	Area (mm ²)	Sheath	Nom Dia mm	Max Resist. @ 20°C Ohm/km	Approx Mass kg/m
Conductor Size 1.5 mm²						
QADP05AA001AAJB	1256	1.5	RD	3.2	13.6	0.02
QADP05AA001AACX	4458	1.5	BK	3.2	13.6	0.02
QADP05AA001AAYF	7662	1.5	YE	3.2	13.6	0.02
QADP05AA001AABF	9353	1.5	BU	3.2	13.6	0.02
Conductor Size 2.5 mm²						
QADP07AA001AAJB	4779	2.5	RD	4.2	7.41	0.03
QADP07AA001AACX	9281	2.5	BK	4.2	7.41	0.03
QADP07AA001AAYF	7362	2.5	YE	4.2	7.41	0.03
QADP07AA001AAWT	3322	2.5	WH	4.2	7.41	0.03

Notes













INDUSTRIAL

Industrial power.

Nexans New Zealand specialises in a range of industrial cables designed in accordance with local and international standards. The quality and toughness of these products make them much sought after on world markets from industrial power, to control cable, robotics, BUS technology, instrumentation and specialist applications.

Flexible Power Cable Selection Criteria

Flexibility		Does not kink
Operating Temperature		
Water Immersion		Submersible to 500m
Physical Toughness		Durable and resistant to crush and abrasion
Oils/fuels/ Solvents		Resistant to common oils and solvents
Acids/ Bases		Resistant to 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
Lead Free		Lead Free

Note: Selection criteria graphs are a guide only. For further data, please contact the Nexans New Zealand Technical Support on 0800 OLEX NZ.



Characteristics

Construction characteristics

Conductor material	Flexible Tinned Copper
Insulation	PVC

Electrical characteristics

Rated Voltage U ₀ /U	0.6/1 kV
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Usage characteristics

Maximum operating temperature	75°C
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Product List

Nexans ref.	Old Code	Area (mm ²)	Colour	Nom Dia mm	Pack size	Approx Mass kg/m
Conductor Size 0.5 mm²						
BAAR51D1001AABK	1643	0.5	BK	2.6	100	0.010
BAAR51D1001AABN	3498	0.5	BN	2.6	100	0.010
BAAR51D1001AABE	3447	0.5	BU	2.6	100	0.010
BAAR51D1001AAHN	5005	0.5	GNYE	2.6	100	0.010
BAAR51D1001AAGY	6351	0.5	GY	2.6	100	0.010
BAAR51D1001AAG	1410	0.5	OG	2.6	100	0.010
BAAR51D1001AARD	2168	0.5	RD	2.6	100	0.010
BAAR51D1001AAWT	1205	0.5	WH	2.6	100	0.010
Conductor Size 0.75 mm²						
BAAR52D1001AABK	2501	0.75	BK	2.8	100	0.015
BAAR52D1001AABN	8078	0.75	BN	2.8	100	0.015
BAAR52D1001AABE	4494	0.75	BU	2.8	100	0.015
BAAR52D1001AAHN	6514	0.75	GNYE	2.8	100	0.015
BAAR52D1001AAGY	3650	0.75	GY	2.8	100	0.015
BAAR52D1001AAG	5871	0.75	OG	2.8	100	0.015
BAAR52D1001AAPK	9299	0.75	PK	2.8	100	0.015
BAAR52D1001AARD	4593	0.75	RD	2.8	100	0.015
BAAR52D1001AAVL	7518	0.75	VT	2.8	100	0.015
BAAR52D1001AAWT	1496	0.75	WH	2.8	100	0.015
Conductor Size 1.0 mm²						
BAAR53D1001AABK	4098	1.0	BK	3.0	100	0.017
BAAR53D1001AABN	7203	1.0	BN	3.0	100	0.017
BAAR53D1001AABE	8808	1.0	BU	3.0	100	0.017
BAAR53D1001AAHN	8290	1.0	GNYE	3.0	100	0.017
BAAR53D1001AAGY	3149	1.0	GY	3.0	100	0.017

Continued....



Nexans ref.	Old Code	Area (mm ²)	Colour	Nom Dia mm	Pack size	Approx Mass kg/m
Conductor Size 1.0 mm²						
BAAR53D1001AAOG	4375	1.0	OG	3.0	100	0.017
BAAR53D1001AAPK	2158	1.0	PK	3.0	100	0.017
BAAR53D1001AARD	4926	1.0	RD	3.0	100	0.017
BAAR53D1001AAVL	4288	1.0	VT	3.0	100	0.017
BAAR53D1001AAWT	7629	1.0	WH	3.0	100	0.017
Conductor Size 1.5 mm²						
BAAR54D1001AABK	4477	1.5	BK	3.2	100	0.02
BAAR54D1001AABN	1618	1.5	BN	3.2	100	0.02
BAAR54D1001AABE	6192	1.5	BU	3.2	100	0.02
BAAR54D1001AAHN	9444	1.5	GNYE	3.2	100	0.02
BAAR54D1001AAGY	9506	1.5	GY	3.2	100	0.02
BAAR54D1001AAOG	5816	1.5	OG	3.2	100	0.02
BAAR54D1001AARD	2370	1.5	RD	3.2	100	0.02
BAAR54D1001AAVL	8112	1.5	VT	3.2	100	0.02
BAAR54D1001AAWT	7977	1.5	WH	3.2	100	0.02
Conductor Size 2.5 mm²						
BAAR55D1001AABK	3657	2.5	BK	3.8	100	0.03
BAAR55D1001AABE	7083	2.5	BU	3.8	100	0.03
BAAR55D1001AAHN	8882	2.5	GNYE	3.8	100	0.03
BAAR55D1001AAGY	6659	2.5	GY	3.8	100	0.03
BAAR55D1001AAOG	1519	2.5	OG	3.8	100	0.03
BAAR55D1001AARD	6503	2.5	RD	3.8	100	0.03
BAAR55D1001AAWT	1330	2.5	WH	3.8	100	0.03
Conductor Size 4 mm²						
BAAR56D1001AABK	1944	4	BK	4.6	100	0.05
BAAR56D1001AABE	4176	4	BU	4.6	100	0.05
BAAR56D1001AAHN	3690	4	GNYE	4.6	100	0.05
BAAR56D1001AARD	2042	4	RD	4.6	100	0.05
BAAR56D1001AAWT	2426	4	WH	4.6	100	0.05
Conductor Size 6 mm²						
BAAR57D1001AABK	5988	6	BK	5.6	100	0.07
BAAR57D1001AABE	9516	6	BU	5.6	100	0.07
BAAR57D1001AAHN	6570	6	GNYE	5.6	100	0.07
BAAR57D1001AARD	6211	6	RD	5.6	100	0.07
BAAR57D1001AAWT	7433	6	WH	5.6	100	0.07



Characteristics

Construction characteristics

Conductor material	Flexible Copper
Insulation	PVC
Outer sheath	PVC

Electrical characteristics

Rated Voltage U ₀ /U	250/440 V
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Usage characteristics

Maximum operating temperature	60°C
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Product List

Nexans ref.	Old Code	Cores x Area (mm ²)	Sheath	Nom Dia mm	Gland Size A2	Approx Mass kg/m
Two Core						
CAHR02A9002BKAA	9537	2 x 0.75	BK	6.6	20S/16	0.07
CAHR02A1002KKAA	6309	2 x 0.75	WH	6.6	20S/16	0.07
CAHR03A1002BKAA	2491	2 x 1.0	BK	6.8	20S/16	0.07
CAHR03A1002KKAA	6372	2 x 1.0	WH	6.8	20S/16	0.07
CAHR04A1002BKAA	7480	2 x 1.5	BK	8.3	20S	0.10
CAHR04A1002WTAA	7143	2 x 1.5	WH	8.3	20S	0.10
Two Core Plus Earth						
EAHR02A1003BKAA	2639	2 x 0.75 + E	BK	6.8	20S/16	0.08
EAHR02A1003KKAA	8734	2 x 0.75 + E	WH	6.8	20S/16	0.08
EAHR03A1003BKAA	9369	2 x 1.0 + E	BK	7.2	20S/16	0.09
EAHR03A1003KKAA	8615	2 x 1.0 + E	WH	7.2	20S/16	0.09
EAHR04A1003BKAA	5057	2 x 1.5 + E	BK	8.5	20S	0.12
EAHR04A1003KKAA	8414	2 x 1.5 + E	WH	8.5	20S	0.12
EAHR05A1003BKAA	9483	2 x 2.5 + E	BK	10.4	20	0.18
EAHR05A1003WTAA	4835	2 x 2.5 + E	WH	10.4	20	0.18
Three Core Plus Earth						
GAHR02A1004BKAA	7320	3 x 0.75 + E	BK	7.5	20S/16	0.11
GAHR02A1004WTAA	9500	3 x 0.75 + E	WH	7.5	20S/16	0.11
GAHR03A1004BKDV	4429	3 x 1.0 + E	BK	8.1	20S	0.11
GAHR03A1004WTAA	7718	3 x 1.0 + E	WH	8.1	20S	0.11
GAHR04A1004BKDV	7006	3 x 1.5 + E	BK	9.6	20S	0.15
GAHR04A1004WTAA	8651	3 x 1.5 + E	WH	9.6	20S	0.15
GAHR05A1004BKDV	6261	3 x 2.5 + E	BK	11.3	20	0.23
Four Core Plus Earth						
GNHR03A1005BKAA	7501	4 x 1.5 + E	GY	10.8	20	0.20
GNHR05A1005BKAA	6302	4 x 2.5 + E	GY	12.6	20	0.27
No. Cores	Colour	No. Cores	Colour			
2	BN,BU	3 (Plus Earth)	BN, WH, BU, GNYE			
2 (Plus Earth)	BN,BU,GNYE	4 (Plus Earth)	BN, WH, BU, BK, GNYE			

PVC Flexible Trurip



Standards
AS/NZS 3191

Characteristics

Construction characteristics

Conductor material	Flexible Copper
Insulation	PVC (Figure 8)

Electrical characteristics

Rated Voltage U ₀ /U	250/250 V
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Usage characteristics

Maximum operating temperature	60°C
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Product List

Nexans ref.	Old Code	Cores x Area (mm ²)	Colour	Nom Dia mm	Approx Mass kg/m
Conductor Size 0.75 mm²					
JSF.75BK1	3899	2 x 0.75	BK	3.1 x 5.9	0.03
JSF.75WT1	8051	2 x 0.75	WH	3.1 x 5.9	0.03

Alsecure® Standard Single Core 110°C



Standards
AS/NZS 5000.1
AS/NZS1995
AS/NZS1660.5.6
AS/NZS 1660.5.3
AS/NZS 1660.5.2

Characteristics

Construction characteristics

Conductor material	Copper
Type of conductor	Stranded flexible
Insulation	X-110 (XLPE)
Outer sheath	HFS-110-TP

Electrical characteristics

Rated Voltage U ₀ /U (Um)	0.6/1 (1.2) kV
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Usage characteristics

Maximum operating temperature	110°C
Submersible	500m

Product List

Nexans ref.	Cross section (mm ²)	Max. diam. of wires (mm ²)	Nom. overall diam. (mm)	Approx. Weight (kg/100m)
(10mm² - 95mm²)				
BZHX01AA001CXNA	10	0.21	8.5	14
BZHX02AA001CXNA ♦	16	0.21	9.8	20
BZHX03AA001CXNA ♦	25	0.21	11.3	30
BZHX04AA001CXNA ♦	35	0.21	12.6	40
BZHX05AA001CXNA ♦	50	0.31	14.2	54
BZHX06AA001CXNA ♦	70	0.31	16.2	74
BZHX07AA001CXNA ♦	95	0.31	18.3	99
(120mm² - 630mm²)				
BZHE87AA001CXNA	120	0.51	20.7	125
BZHE88AA001CXNA	150	0.51	22.6	150
BZHE89AA001CXNA	185	0.51	24.6	179
BZHE90AA001CXNA	240	0.51	27.7	240
BZHE91AA001CXNA	300	0.51	31.0	290
BZHE92AA001CXNA	400	0.51	35.4	389
BZHE93AA001CXNA	500	0.51	40.0	498
BZHE94AA001CXNA	630	0.51	44.0	629

Note: ♦ Earth cable also available



Aelsecure[®] Standard Multicore Flex 90°C



Standards
AS/NZS 1125
AS/NZS3808
AS/NZS 5000.1

Characteristics

Construction characteristics

Conductor material	Flexible Copper
Insulation	X - 90
Outer sheath	HFS - 90-TP
Sheath colour	Orange
Halogen Free	Yes

Electrical characteristics

Rated Voltage U _o /U (Um)	0.6/1 (1.2) kV
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Usage characteristics

Maximum operating temperature	90°C
Smoke Density	Low
Flame retardant	Yes
Submersible	500m

Product List

Nexans ref.	Old Code	Cross Sect. (mm ²)	No. of cores	Nom. Insul. thick (mm)	Nom. overall diam. (mm)	Approx. Weight (kg/100m)
DTHR04HF002OMHF	9613	1.5	3 incl E	0.7	11.0	16.4
FTHR04HF003OMRJ	1017	1.5	4 incl E	0.7	12.0	19.5
HTHR04HF004OMEM	9501	1.5	5 incl E	0.7	13.0	24.5
DTHR05HF002OMHF	8293	2.5	3 incl E	0.7	12.0	20.9
FTHR05HF003OMRJ	6257	2.5	4 incl E	0.7	13.0	25.2
HTHR05HF004OMEM	7956	2.5	5 incl E	0.7	14.0	31.8
DTHR06HF002OMHF	8340	4	3 incl E	0.7	13.5	28.7
FTHR06HF003OMRJ	1202	4	4 incl E	0.7	14.5	35.4
HTHR06HF004OMEM	7524	4	5 incl E	0.7	15.5	41.5
DTHR07HF002OMHF	9893	6	3 incl E	0.7	14.5	36.0
FTHR07HF003OMRJ	2611	6	4 incl E	0.7	16.0	45.0
HTHR07HF004OMEM	4320	6	5 incl E	0.7	17.5	55.2
FTHX01HF003OMRJ	4662	10	4 incl E	0.7	19.5	71.0
HTHX01HF004OMEM	5670	10	5 incl E	0.7	21.5	82.7
HTHX02HF004OMEM	8926	16	5 incl E	0.7	24.5	116.2
HTHX03HF004OMEM	3338	25	5 incl E	0.9	30.0	176.0
HTHX04HF004OMEM	7099	35	5 incl E	0.9	34.0	236.5

Versolex[®] Multicore Cords



Standards
AS/NZS 3191

Characteristics

Construction characteristics

Conductor material	Copper
Insulation	Flexible XLPE
Outer sheath	TPE

Electrical characteristics

Rated Voltage U ₀ /U	0.6/1 kV
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Usage characteristics

Maximum operating temperature	60°C
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Product List

Nexans ref.	Old Code	Cores x Area (mm ²)	Nom Dia mm	Nom sheath thick. mm	Gland Size A2 or AF	Approx Mass kg/m
Two Core plus Earth						
EFGR04AA003CXKA	1228	2 x 1.5 + 1.5 E	9.5	1.6	20S	0.12
EFGR05AA003CXKA	1260	2 x 2.5 + 2.5 E	10.9	1.8	20	0.16
Three Core plus Earth						
GfGR04AA004CXSA	2595	3 x 1.5 + 1.5 E	10.5	1.7	20S	0.14
GfGR05AA004CXSA	2621	3 x 2.5 + 2.5 E	12.0	1.9	20	0.20

Core Colours

No. Cores	Colour
3 (≤ 4mm ²)	BN, Lt BU, GNYE
4 (≤ 4mm ²)	BN, BK, Lt BU, GNYE



Versolex® Braided Cords & Cables



Standards
AS/NZS 5000.1 (Cables)
AS/NZS 3191 (Cords)

Characteristics

Construction characteristics

Conductor material	Copper
Insulation	Flexible XLPE
Bedding	TPE
Screen	Copper Braid
Outer sheath	TPE

Electrical characteristics

Rated Voltage U ₀ /U	0.6/1 kV
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Usage characteristics

Maximum operating temperature (cables)	90°C
Maximum operating temperature (cords)	60°C

Product List

Nexans ref.	Old Code	Cores x Area (mm ²)	Sheath	Nom Dia mm	Gland Size CX	Approx Mass kg/m
CORDS						
Two Core Plus Earth						
EATR04AA003BKKA	1844	2 x 1.5 + 1.5 E	BK	11.3	20S	0.21
EATR04AA003OGAA	4518	2 x 1.5 + 1.5 E	OG	11.3	20S	0.21
Three Core Plus Earth						
GETR04AA004CXSA	9895	3 x 1.5 + 1.5 E	BK	13.4	20S	0.24
GETR04AA004OGSA	1030	3 x 1.5 + 1.5 E	OG	13.4	20S	0.24
GETR05AA004CXSA	1127	3 x 2.5 + 2.5 E	BK	14.9	20S	0.31
GETR06AA004CXSA	3230	3 x 4 + 4 E	BK	16.4	20	0.40

Note: 3C and 4C suitable for fixed installation only beyond 4mm².

continued...



Versolex[®] Braided Cords & Cables



Standards
AS/NZS 5000.1 (Cables)
AS/NZS 3191 (Cords)

Nexans ref.	Old Code	Cores x Area (mm ²)	Sheath	Nom Dia mm	Gland Size CX	Approx Mass kg/m
CABLES						
Three Core plus Split Earth						
FTTR07AA003CXPF	2983	3 x 6 + 4.5 SE*	BK	18.1	25	0.41
FTTX01AA003CXPF	5506	3 x 10 + 4.5 SE*	BK	19.4	25	0.65
FTTX02AA003CXPF	7310	3 x 16 + 7.5 SE*	BK	22.1	25	0.95
FTTX03AA003CXPF	4067	3 x 25 + 12 SE*	BK	25.3	32	1.33
FTTX04AA003CXPF	9296	3 x 35 + 18 SE*	BK	27.9	32	1.73
FTTX05AA003CXPF	6118	3 x 50 + 30 SE*	BK	30.1	40	2.29
FTTX06AA003CXPF	5393	3 x 70 + 30 SE*	BK	37.5	50S	3.25
FTTX07AA003CXPF	9786	3 x 95 + 48 SE*	BK	41.6	50S	4.26
Four Core Plus Earth						
BWTR06AA005CXLR	4308	4 x 4 + 4 E	BK	18.1	20	0.47
BWTR07AA005CXLR	6740	4 x 6 + 6 E	BK	20.1	25	0.58
BWTX01AA005CXLR	3684	4 x 10 + 10 E	BK	22.1	25	0.83

Core Colours

No. Cores	Colour
3 (≤ 4mm ²)	BN, Lt BU, GNYE
3 (≥ 6mm ²)	RD, BK, GNYE
4 (≤ 4mm ²)	BN, WH, Lt BU, GNYE
4 (≥ 6mm ²)	RD, NAT, BU, GNYE
5 (≤ 4mm ²)	BN, OG, WH, Lt BU, GNYE
5 (≥ 6mm ²)	RD, NAT, BU, BK, GNYE

Note: 3C and 4C suitable for fixed installation only beyond 4mm²

* Combined Earth size



Titanex[®] Multicore (H07RN-F)



Standards

DIN VDE 0295 Class 5
DIN VDE 0282 Part 1 & 2 (insulation)
DIN VDE 0282 Part 1 & 4 (sheath)
HD 308 S2 (Core Identification)

Characteristics

Construction characteristics

Conductor material	Bare Copper
Insulation	Special cross-linked elastomer
Outer sheath	Special cross-linked elastomer

Electrical characteristics

Rated Voltage U ₀ /U	450 / 750 V
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Usage characteristics

Maximum conductor temperature in service	60°C
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Product List

Nexans ref.	Old Code	Cores x Area (mm ²)	Nom Dia mm	Approx Mass kg/m
Two Core				
HAR2X2.5	6894	2 x 2.5	11.7	0.16
HAR3G1	4202	2 x 1.0 + E	9.5	0.12
HAR3G1.5	4046	2 x 1.5 + E	10.6	0.13
HAR3G2.5	4222	2 x 2.5 + E	12.5	0.20
HAR3G4	5694	2 x 4 + E	14.5	0.29
HAR3G6	6387	2 x 6 + E	16.1	0.35
HAR3G10	6519	2 x 10 + E	21.7	0.66
HAR3G16	6712	2 x 16 + E	24.7	0.92
Three Core Plus Earth				
HAR4G1.5	1536	3 x 1.5 + E	11.7	0.17
HAR4G2.5	3918	3 x 2.5 + E	13.8	0.25
HAR4G4	1853	3 x 4 + E	16.0	0.36
HAR4G6	6061	3 x 6 + E	17.9	0.44
HAR4G10	2228	3 x 10 + E	23.7	0.82
HAR4G16	2560	3 x 16 + E	27.0	1.15
HAR4G25	3174	3 x 25 + E	32.8	1.70
HAR4G35	8296	3 x 35 + E	36.8	2.18
HAR4G70	9564	3 x 70 + E	48.4	3.99

continued...



Titanex[®] Multicore (H07RN-F)



Standards

DIN VDE 0295 Class 5
DIN VDE 0282 Part 1 & 2 (insulation)
DIN VDE 0282 Part 1 & 4 (sheath)
HD 308 S2 (Core Identification)

Nexans ref.	Old Code	Cores x Area (mm ²)	Nom Dia mm	Approx Mass kg/m
Four Core Plus Earth				
HAR5G1.5	1063	4 x 1.5 + E	12.8	0.24
HAR5G2.5	1092	4 x 2.5 + E	15.2	0.30
HAR5G4	1208	4 x 4 + E	17.8	0.45
HAR5G6	3425	4 x 6 + E	19.9	0.56
HAR5G10	8476	4 x 10 + E	26.0	1.00
HAR5G16	1388	4 x 16 + E	29.9	1.43
HAR5G25	8606	4 x 25 + E	36.2	2.10
HAR5G35	4591	4 x 35 + E	39.4	2.75
Six Core Plus Earth				
HAR7G1.5	9008	6 x 1.5 + E	15.5	0.38
HAR7G2.5	9142	6 x 2.5 + E	17.5	0.52
Eleven Core Plus Earth				
HAR12G1.5	6075	11 x 1.5 + E	19.3	0.51
HAR12G2.5	6202	11 x 2.5 + E	23.4	0.76
Seventeen Core Plus Earth				
HAR18G1.5	5523	17 x 1.5 + E	23.5	0.73

Core Colours

No. Cores	Colour
2	BN, BU
3	BN, BU, GNYE
4	BN, BK, GY, GNYE
5	BN, BK, GY, BU, GNYE
6 & above	GNYE, BK with white numbering



Varolex® Variable Speed Drives



Standards
AS/NZS 5000.1

Characteristics

Construction characteristics

Conductor material	Copper
	With three earths disposed in the interstices of the power cores
Material of bedding	PVC
Insulation	X-90
Screen	Copper tape
Outer sheath	PVC

Electrical characteristics

Rated Voltage U_0/U (Um)	0.6/1 (1.2) kV
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Usage characteristics

Maximum operating temperature	90°C
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Product List

Nexans ref.	Old Code	Cores x Area mm ² <small>(combined earth size)</small>	Nom Dia	Nom Dia	Gland Size	Approx Mass kg/m
			mm <small>(Over Screen)</small>	mm <small>(Sheath)</small>	<small>(Gland Type)</small>	
FTDP07AA003CXRJ	6175	3 x 2.5 + 2.5 E *	10.9	14.6	0-20 (VRTX)	0.32
FTDP09AA003CXRJ	4005	3 x 4 + 4.5 SE	13.0	16.6	1-20 (VRTX)	0.44
FTDP11AA003CXRJ	5206	3 x 6 + 4.5 SE	13.8	17.5	1-20 (VRTX)	0.51
FTDP13AA003CXRJ	6307	3 x 10 + 4.5 SE	14.8	18.5	2-25s (VRTX)	0.62
FTDP15AA003CXRJ	1196	3 x 16 + 7.5 SE	17.0	20.6	2-25 (VRTX)	0.86
FTDC17AA003CXRJ	7408	3 x 25 + 12 SE	19.2	22.8	2-25 (VRTX)	1.21
FTDC18AA003CXRJ	8451	3 x 35 + 18 SE	21.9	25.6	3-32s (VRTX)	1.60
FTDC19AA003CXRJ	2200	3 x 50 + 30 SE	25.1	28.8	4-40s (VRTX)	2.11
FTDC20AA003CXRJ	4466	3 x 70 + 30 SE	28.1	32.0	4-40 (VRTX)	2.77
FTDC21AA003CXRJ	9651	3 x 95 + 48 SE	33.9	38.0	5-50s (VRTX)	3.90
FTDC43AA003CXRJ	3569	3 x 120 + 48 SE	38.9	43.2	5-50 (VRTX)	4.67
FTDP24AA003CXRJ	6548	3 x 150 + 75 SE	42.6	47.3	6-63s (VRTX)	5.85
FTDP25AA003CXRJ	5985	3 x 185 + 75 SE	47.5	52.0	6-63 (VRTX)	7.11

Core Colours

No. Cores	Colour
4	RD, WH, BU, GNYE

Note: Conductors are circular stranded, sizes 16 mm² and above are compact circular stranded.

* Single Earth



PVC Flexible Control



Standards
International
HD 21.1

Characteristics

Construction characteristics

Conductor material	Copper
Insulation	PVC
Outer sheath	PVC

Electrical characteristics

Rated Voltage U ₀ /U	300/500 V
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Usage characteristics

Maximum operating temperature	75°C
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Product List

Nexans ref.	Old Code	Cores x Area (mm ²)	Nom Dia mm	Approx Mass kg/m
Conductor Size 0.5 mm²				
CC4G0.5	1045	3 x 0.5 + E	5.7	0.06
CC5G0.5	1070	4 x 0.5 + E	6.2	0.07
CC7G0.5	1104	6 x 0.5 + E	7.4	0.08
CC12G0.5	1135	11 x 0.5 + E	9.1	0.14
CC18G0.5	2373	17 x 0.5 + E	10.7	0.20
CC25G0.5	2420	24 x 0.5 + E	13.0	0.27
Conductor Size 0.75 mm²				
CC3G0.75	3034	2 x 0.75 + E	5.5	0.05
CC4G0.75	3162	3 x 0.75 + E	6.2	0.07
CC5G0.75	3233	4 x 0.75 + E	6.8	0.08
CC7G0.75	3260	6 x 0.75 + E	8.1	0.11
CC12G0.75	3307	11 x 0.75 + E	9.9	0.18
CC18G0.75	3372	17 x 0.75 + E	11.9	0.26

Note: Black cores with continuous white numbering according to DIN VDE 0293, plus green/yellow earth. Not suitable for open air applications.

continued...



PVC Flexible Control



Standards
International
HD 21.1

Nexans ref.	Old Code	Cores x Area (mm ²)	Nom Dia mm	Approx Mass kg/m
Conductor Size 1.0 mm²				
CC3G1	4295	2 x 1.0 + E	6.0	0.07
CC4G1	4349	3 x 1.0 + E	6.6	0.09
CC5G1	4435	4 x 1.0 + E	7.2	0.10
CC7G1	5554	6 x 1.0 + E	8.6	0.14
CC12G1	5688	11 x 1.0 + E	10.7	0.23
CC18G1	5850	17 x 1.0 + E	12.7	0.34
CC25G1	5916	24 x 1.0 + E	15.6	0.49
Conductor Size 1.5 mm²				
CC3G1.5	6143	2 x 1.5 + E	6.7	0.09
CC4G1.5	6220	3 x 1.5 + E	7.3	0.11
CC5G1.5	6327	4 x 1.5 + E	8.2	0.13
CC7G1.5	5186	6 x 1.5 + E	9.8	0.18
CC12G1.5	5410	11 x 1.5 + E	12.1	0.31
CC18G1.5	3703	17 x 1.5 + E	14.5	0.44
CC25G1.5	6687	24 x 1.5 + E	17.8	0.62
Conductor Size 2.5 mm²				
CC3G2.5	4305	2 x 2.5 + E	8.3	0.15
CC5G2.5	7880	4 x 2.5 + E	10.2	0.22
CC7G2.5	7651	6 x 2.5 + E	12.1	0.31
CC12G2.5	8170	11 x 2.5 + E	15.2	0.50

Note: Black cores with continuous white numbering according to DIN VDE 0293, plus green/yellow earth. Not suitable for open air applications.



PVC-EMC Flexible Control



Standards
Manufacturer
Specification

Characteristics

Construction characteristics

Conductor material	Copper
Insulation	PVC
Outer sheath	Tinned copper braid with transparent PVC

Electrical characteristics

Rated Voltage U _o /U	300/500 V
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Usage characteristics

Flexing	-5°C to 80°C
Fixed	-40°C to 80°C
Bending factor when laying	10 (x D)

Product List

Nexans ref.	Old Code	Cores x Area (mm ²)	Nom Dia mm	Approx Mass kg/m
Conductor Size 0.5 mm²				
CY3G0.5	6013	2 x 0.5 + E	7.2	0.08
CY4G0.5	7128	3 x 0.5 + E	7.8	0.09
CY5G0.5	5642	4 x 0.5 + E	8.3	0.11
Conductor Size 0.75 mm²				
CY4G0.75	5677	3 x 0.75 + E	8.3	0.11
Conductor Size 1.0 mm²				
CY4G1	6188	3 x 1.0 + E	8.9	0.15
CY5G1	6771	4 x 1.0 + E	9.5	0.17
CY12G1	6122	11 x 1.0 + E	13.1	0.35
Conductor Size 1.5 mm²				
CY3G1.5	1678	2 x 1.5 + E	9.0	0.15
CY4G1.5	2856	3 x 1.5 + E	9.6	0.17
CY7G1.5	9702	6 x 1.5 + E	12.1	0.30
Conductor Size 2.5 mm²				
CY3G2.5	4157	2 x 2.5 + E	10.7	0.22
CY4G2.5	5061	3 x 2.5 + E	11.4	0.27
CY7G2.5	3180	6 x 2.5 + E	15.0	0.41
Conductor Size 4 mm²				
CY5G4	3048	4 x 4.0 + E	14.8	0.50

Note: Black cores with continuous white numbering according to DIN VDE 0293, plus green/yellow earth. Not suitable for open air applications



Silicone Single Core



Standards
International
IEC 60754-2

Characteristics

Construction characteristics

Conductor material	Tinned Copper
Insulation	Silicone
Halogen Free	IEC 60754-2

Electrical characteristics

Operating Voltage	500 V
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Usage characteristics

Fixed	-60°C to 180°C
Bending factor when laying	15 (x D)

Product List

Nexans ref.	Old Code	Cores x Area (mm ²)	Colour	Nom Dia mm	Approx Mass kg/m
SIF2351BK	7865	1 x 1.0	BK	2.5	0.01
SIF23502A1	7547	1 x 1.0	RD	2.5	0.01
SIF2361.5BK	1588	1 x 1.5	BK	2.8	0.02
SIF2361.5RDA1	7483	1 x 1.5	RD	2.8	0.02
SIF2372.5BK	4883	1 x 2.5	BK	3.4	0.03
SIF2372.5RD	5311	1 x 2.5	RD	3.4	0.03
SIF2384BKA1	5492	1 x 4	BK	4.2	0.05
SIF2384RDA1	7066	1 x 4	RD	4.2	0.05
SIF2396BKA1	6853	1 x 6	BK	5.2	0.07
SIF2396RDA1	2187	1 x 6	RD	5.2	0.07



Silicone Multicore



Standards
International
IEC 60754-2

Characteristics

Construction characteristics

Conductor material	Tinned Copper
Insulation	Silicone
Outer sheath	Silicone Elastomer
Halogen Free	IEC 60754-2

Electrical characteristics

Operating Voltage	300/500 V
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Usage characteristics

Fixed	-60°C to 180°C
Bending factor when laying	7.5 (x D)

Product List

Nexans ref.	Old Code	Cores x Area (mm ²)	Nom Dia mm	Approx Mass kg/m
Conductor Size 1.0 mm²				
SF2X1	6571	2 x 1.0	6.6	0.06
SF3G1	2786	2 x 1.0 + E	7.4	0.08
SF4G1	2270	3 x 1.0 + E	8.0	0.09
SF7G1	8854	6 x 1.0 + E	9.5	0.14
SF12G1	3058	11 x 1.0 + E	11.5	0.23
Conductor Size 1.5 mm²				
SF2X1.5	9502	2 x 1.5	7.6	0.08
SF3G1.5	6607	2 x 1.5 + E	8.0	0.10
SF4G1.5	7396	3 x 1.5 + E	8.8	0.12
SF5G1.5	7298	4 x 1.5 + E	9.6	0.15
SF12G1.5	8288	11 x 1.5 + E	14.6	0.31
Conductor Size 2.5 mm²				
SF3G2.5	4409	2 x 2.5 + E	9.7	0.15
SF4G2.5	8829	3 x 2.5 + E	10.6	0.19
SF5G2.5	6181	4 x 2.5 + E	11.6	0.23
Conductor Size 6 mm²				
SF4G6	9517	3 x 6.0 + E	16.2	0.44
Conductor Size 10 mm²				
SF4G10	6338	3 x 10 + E	20.4	0.71

No. Cores	Colour
2	BN, BU
3	BN, BU, GNYE
4	BN, BU, BK, GNYE
5	BN, BU, BK, GY, GNYE
6 & above	BK with white numbering



Instrolex[®] Instrumentation cable – Overall Screen (CS)



Standards
AS/NZS 1125
AS/NZS 3808
IEC 60332-1
IEC 60332-3 Cat A

Characteristics

Construction characteristics

Conductor material	Plain Annealed Copper
Core Layup	Twisted Pairs
Insulation	V-90 RP PVC
Overall Screen	Annealed tinned copper drain wire with aluminium/polyester tape (with rip cord)
Outer sheath	5V-90 RP PVC

Electrical characteristics

Maximum operating voltage	110 VAC / 150 VDC
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Usage characteristics

Maximum operating temperature	75°C
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Product List

Nexans ref.	Old Code	Area mm ²	No. Pairs	Nom Dia mm	Gland Size A2 or A2F	Approx Mass kg/m
Conductor Size 0.5 mm²						
IEB183AA001CXAA	2946	0.5	1	5.2	20S/16	0.04
IEC183AA002CXAA	7908	0.5	2	7.8	20S	0.06*
IEC183AA004CXAA	1673	0.5	4	8.4	20S	0.09*
IEC183AA006CXAA	4881	0.5	6	10.0	20S	0.13
IEC183AA008CXAA	9131	0.5	8	11.2	20	0.17
IEC183AA010CXAA	4512	0.5	10	12.5	20	0.21
IEC183AA012CXAA	8982	0.5	12	13.4	25	0.24
IEC183AA016CXAA	3592	0.5	16	15.1	25	0.31
IEC183AA020CXAA	5034	0.5	20	16.8	25	0.38
IEC183AA024CXAA	4013	0.5	24	18.1	25	0.45*
Conductor Size 1.5 mm²						
IEB184AA001CXAA	1995	1.5	1	6.6	20S/16	0.06*
IEC184AA002CXAA	9212	1.5	2	9.9	20	0.11*
IEC184AA004CXAA	5210	1.5	4	10.9	20	0.18
IEC184AA006CXAA	1788	1.5	6	13.0	20	0.26*
IEC184AA008CXAA	7726	1.5	8	14.6	25	0.33
IGB184AA001CXAA	7130	1.5	1 Triple	6.9	20S/16	0.08*

Note: 0.5mm² (7/0.30mm) is equivalent to 20 AWG
1.5mm² (7/0.50mm) is equivalent to 16AWG

• Some cables also available as intrinsically safe blue sheathed Instrolex[®].



Instrolex[®] Instrumentation cable – Individual & Overall Screen (ESCS)



Standards
AS/NZS 1125
AS/NZS 3808
IEC 60332-1
IEC 60332-3 Cat A

Characteristics

Construction characteristics

Conductor material	Plain Annealed Copper
Core Lay up	Twisted Pairs
Insulation	V-90 RP PVC
Overall Screen	Annealed tinned copper drain wire with aluminium/polyester tape (with rip cord)
Outer sheath	5V-90 RP PVC

Electrical characteristics

Maximum operating voltage	110 VAC / 150 VDC
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Usage characteristics

Maximum operating temperature	75°C
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Product List

Nexans ref.	Old Code	Area mm ²	No. Pairs	Nom Dia mm	Gland Size A2 or A2F	Approx Mass kg/m
Conductor Size 0.5 mm²						
IED183AA002CXAA	7380	0.5	2	8.1	20S	0.07*
IED183AA004CXAA	2522	0.5	4	10.4	20	0.12
IED183AA006CXAA	9883	0.5	6	12.2	20	0.17
IED183AA008CXAA	8877	0.5	8	13.9	25	0.22
IED183AA010CXAA	3095	0.5	10	14.6	25	0.26
IED183AA012CXAA	5222	0.5	12	16.0	25	0.31
IED183AA016CXAA	3482	0.5	16	18.0	25	0.39
Conductor Size 1.5 mm²						
IED184AA002CXAA	3643	1.5	2	10.3	20	0.13
IED184AA004CXAA	7478	1.5	4	13.4	25	0.22
IED184AA012CXAA	1309	1.5	12	20.9	32	0.57
IED184AA016CXAA	7905	1.5	16	23.9	32	0.75

Note: 0.5 mm² (7/0.30mm) is equivalent to and 20 AWG
1.5 mm² (7/0.50mm) is equivalent to and 16 AWG

*Some cables also available as intrinsically safe blue sheathed Instrolex[®].



Instrolex[®] Instrumentation cable – Overall Screen, Steel Wire armour (CS SWA)



Standards

AS/NZS 1125
AS/NZS 3808
IEC 60332-1
IEC 60332-3 Cat A

Characteristics

Construction characteristics

Conductor material	Annealed Copper
Core Lay up	Twisted Pairs
Material of bedding	PVC
Overall Screen	Annealed tinned copper drain wire with aluminium/polyester tape (with rip cord)
Insulation	V-90 RP PVC
Armour Type	Steel wires
Outer sheath	5V-90 RP PVC

Electrical characteristics

Maximum operating voltage	110 VAC / 150 VDC
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Usage characteristics

Maximum operating temperature	75°C
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Product List

Nexans ref.	Old Code	Area mm ²	No. Pairs	Nom Dia mm	Gland Size A2 or A2F	Approx Mass kg/m
Conductor Size 0.5 mm²						
IEG183AA002CXAA	8731	0.5	2	11.4	20S	0.25*
IEG183AA004CXAA	1655	0.5	4	12.0	20S	0.28
IEG183AA006CXAA	9291	0.5	6	13.6	20S	0.36
IEG183AA008CXAA	5519	0.5	8	14.8	20S	0.42
IEG183AA010CXAA	6704	0.5	10	16.1	20	0.48
IEG183AA012CXAA	4463	0.5	12	17.0	20	0.54*
IEG183AA016CXAA	5512	0.5	16	18.9	25	0.65
Conductor Size 1.5 mm²						
IEF184AA001CXAA	3610	1.5	1	10.2	20S/16	0.22*
IEG184AA002CXAA	7991	1.5	2	13.6	20S	0.34
IGF184AA001CXAA	5213	1.5	1 Triple	10.6	20S/16	0.24*

Note: 0.5 mm² (7/0.30mm) is equivalent to and 20 AWG

1.5 mm² (7/0.50mm) is equivalent to and 16 AWG

* Some cables also available as intrinsically safe blue sheathed Instrolex[®].



Instrolex[®] Instrumentation cable – Individual & Overall Screen, Steel Wire armour (ESCS SWA)



Standards
AS/NZS 1125
AS/NZS 3808
IEC 60332-1
IEC 60332-3 Cat A

Characteristics

Construction characteristics

Conductor material	Annealed Copper
Core Lay up	Twisted Pairs
Material of bedding	PVC
Overall Screen	Annealed tinned copper drain wire with aluminium/polyester tape (with rip cord)
Insulation	V-90 RP PVC
Armour Type	Steel wires
Outer sheath	5V-90 RP PVC

Electrical characteristics

Maximum operating voltage	110 VAC / 150 VDC
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Usage characteristics

Maximum operating temperature	75°C
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Product List

Nexans ref.	Old Code	Area mm ²	No. Pairs	Nom Dia mm	Gland Size CW or E1FW	Approx Mass kg/m
Conductor Size 0.5 mm²						
IEH183AA002CXAA	3144	0.5	2	11.7	20S	0.26*
IEH183AA004CXAA	2185	0.5	4	14.0	20S	0.35
IEH183AA006CXAA	1292	0.5	6	16.0	20	0.45
IEH183AA008CXAA	2791	0.5	8	17.5	20	0.52
IEH183AA012CXAA	3572	0.5	12	19.6	25	0.66*

Note: 0.5 mm² (7/0.30mm) is equivalent to and 20 AWG

* Some cables also available as intrinsically safe blue sheathed Instrolex[®].



PVC Flat Crane Cable



Standards
HD 359 S2
IEC 60227-6
IEC 60332-1

Characteristics

Construction characteristics	
Conductor material	Plain Copper
Insulation	PVC
Conductor flexibility	Flexible class 5
Outer sheath	PVC
Electrical characteristics	
Rated Voltage U ₀ /U	450/750 V
Usage characteristics	
Maximum operating temperature	70°C

Product List

Nexans ref.	Old Code	Cores x Area mm ²	Outer Dia mm	Approx Mass kg/m
Power				
FC4G4	-	3 x 4 + E	6.5 x 21.0	0.30
FC4G6	-	3 x 6 + E	7.0 x 23.0	0.39
FC4G10	-	3 x 10 + E	9.0 x 29.0	0.62
FC4G16	-	3 x 16 + E	11.0 x 37.0	0.99
FC4G25	-	3 x 25 + E	13.5 x 46.0	1.55
FC4G35	-	3 x 35 + E	14.8 x 51.0	2.03
FC5G6	6648	4 x 6 + E	7.0 x 28.0	0.48
FC7G4	7828	6 x 4 + E	6.5 x 37.0	0.55
Control				
FC4G1.5	5355	3 x 1.5 + E	5.0 x 15.0	0.15
FC4G2.5	-	3 x 2.5 + E	6.0 x 18.5	0.21
FC5G1.5	-	4 x 1.5 + E	5.0 x 18.0	0.18
FC5G2.5	-	4 x 2.5 + E	6.0 x 22.0	0.26
FC8G1.5	-	7 x 1.5 + E	5.0 x 29.0	0.30
FC8G2.5	1171	7 x 2.5 + E	6.0 x 35.0	0.41
FC12G1.5	-	11 x 1.5 + E	5.0 x 40.5	0.42
FC12G2.5	-	11 x 2.5 + E	6.0 x 50.5	0.62
FC16G1.5	8444	15 x 1.5 + E	5.0 x 54.0	0.56
FC18G1.0	2254	17 x 1.0 + E	4.5 x 52.8	0.44
FC24G0.75	9541	23 x 0.75 + E	4.3 x 65.6	0.51



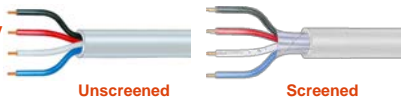


DATA / COMMS

Designed for the future.

The Nexans New Zealand range of data and communications cables are designed to meet the needs of customers today and in the future. Our comprehensive Datolex range has been specially designed with the installer in mind while our Audiolex cables will provide you with superior home theatre. The Gardolex range of extra low voltage cables make garden lighting simple, reliable and economical.

Security Cable



Standards
Manufacturer
Specification

Characteristics

Construction characteristics

Conductor material	Plain Copper
Insulation	PVC
Screen (Screened Security Cable only)	Aluminium foil overall tape Stranded tinned annealed Cu drain wire
Outer sheath	PVC

Electrical characteristics

Maximum operating voltage	50 VAC, 120 VDC
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Usage characteristics

Maximum operating temperature	75°C
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Product List - Unscreened

Nexans ref.	Old Code	No. Cores	Nom Dia mm	Max DC Resist. @ 20°C Ohm/km	Pack Size m	Approx Mass kg/m
Conductor Size 0.22mm² (7/0.20mm)						
JSC.2WT4C1	1794	4	3.6	86.5	100	0.01
JSC.2WT6C1	6642	6	4.9	86.5	100	0.03
Conductor Size 0.44mm² (14/0.20mm)						
JSC.5WT4C1	6599	4	4.7	45.2	100	0.03
JSC.5WT6C*	5252	6	6.1	45.2	100, 250	0.06
JSC.5WT8C*	2613	8	6.5	45.2	100, 500	0.07

Product List - Screened

Nexans ref.	Old Code	No. Cores	Nom Dia mm	Max DC Resist. @ 20°C Ohm/km	Pack Size m	Approx Mass kg/m
Conductor Size 0.44mm² (14/0.20mm)						
JSS.5GY7C1	3729	7	6.2	45.2	100	0.07

Core Colours

No. Cores	Core Colour
4	RD, BU, WH, BK,
6	RD, BU, WH, BK, YE
7	RD, BU, WH, BK, OG, YE, GN
8	RD, BU, WH, BK, OG, YE, GN, BN

Pack size

Ref	Size	Code
A	100m Spool	1
B	250m Spool	250
D	500m Spool	5

Audioplex Oxygen Free



Standards
Manufacturer
Specification

Characteristics

Construction characteristics

Conductor material	Oxygen Free stranded copper
Insulation	PVC
Outer sheath	Violet PVC

Electrical characteristics

Maximum operating voltage	50 VAC, 120 VDC
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Usage characteristics

Maximum operating temperature	75°C
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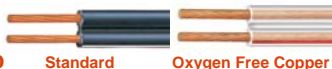
Product List

Nexans ref.	Old Code	Cores x Area mm ²	Stranding No./mm	Nom Dia mm	Nom Con. Resist. @ 20°C Ohm/km	Pack Size *	Approx Mass kg/m
Two Core							
JTS1.2VT2CA3	5472	2 x 1.2	70/0.15	6.5	17.2	300m	5.8
JTS2.5VT2C*	1534	2 x 2.5	140/0.15	8.5	7.8	A, C	10.0
Three Core							
JTS1.2VT4CA3	2978	4 x 1.2	70/0.15	6.9	17.2	300m	8.6

* Pack Size

Reference	Size	Code
A	100m Spool	A1
C	300m Spool	A3

Audiolex Figure 8 Speaker Trurip



Standards
Manufacturer
Specification

Characteristics

Construction characteristics

Conductor material (Standard Trurip)	Flexible copper
Conductor material (OFC Trurip)	Oxygen free copper
Insulation	PVC
Outer sheath	PVC

Electrical characteristics

Maximum operating voltage	50 VAC/ 120 VDC
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Usage characteristics

Maximum operating temperature	75°C
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Product List - Standard

Nexans ref.	Old Code	Cores x Area mm ²	Colour	Nom Dia mm	Nom Cond. Resist. @ 20°C Ohm/km	Stranding No./mm	Pack Size *	Approx Mass kg/m
Conductor Size 0.50 mm² (14/0.20mm)								
J5F.5WTBK1	6121	2 x 0.5	BK/WH	1.8 x 4.3	44.5	14/0.20	100	0.02
J5F.5GYBK*	1878	2 x 0.5	GY/BK	1.8 x 4.3	44.5	14/0.20	A, D	0.02
Conductor Size 0.75 mm² (24/0.20mm)								
J5F.75BKW*	7555	2 x 0.75	BK/WH	2.9 x 5.9	26	24/0.20	B, D	0.03
J5F.75BEWT5	8602	2 x 0.75	BU/WH	2.9 x 5.9	26	24/0.20	500m	0.03
J5F.75RDBK*	3221	2 x 0.75	RD/BK	2.9 x 5.9	26	24/0.20	A, B, D	0.03
J5F.75CL1	8056	2 x 0.75	Clear	2.9 x 5.9	26	24/0.20	100	0.03
J5F.75BK1	3899	2 x 0.75	BK	2.9 x 5.9	26	24/0.20	100	0.03
J5F.75WT1	8051	2 x 0.75	WH	2.9 x 5.9	26	24/0.20	100	0.03

Product List – Oxygen Free Copper

Nexans ref.	Old Code	Cores x Area mm ²	Colour	Nom Dia mm	Nom Con. Resist. @ 20°C Ohm/km	Stranding No./mm	Pack Size *	Approx Mass kg/m
J5F2.0CL*	3865	2 x 2.0	Clear	3.4 x 7.0	10.9	64/0.20	A, D	0.05
J5F2.6CL1	6563	2 x 2.6	Clear/RD	4.5 x 9.0	7.4	84/0.20	100m	0.08

Pack Size

Ref	Size	Code
A	100m Spool	1
B	250m Spool	250
D	500m Spool	5

Coaxial Cable 50 Ohm



Standards
Manufacturer
Specification

Characteristics

Construction characteristics

Conductor material	Copper or tinned copper
Insulation	Solid polyethylene
Screen	Tinned or bare copper braid
Outer sheath	PVC
Dielectric	Solid PE

Electrical characteristics

Nominal capacity value	101pF/m
Nominal velocity propagation	66%

Product List

Nexans ref.	Old Code	Type	Stranding No./mm	Nom Dia mm	Shielding	Pack Size *	Approx Mass kg/m
JBCRG58CUMIL1	8896	RG58	19/0.19 T/C	4.95	93% T/C	100m	0.04
JBCRG213MIL1	2783	RG213	7/0.7 B/C	10.3	97% T/C	100m	0.16

Coaxial Cable 75 Ohm



Standards
Manufacturer
Specification

Characteristics

Construction characteristics RG59 CCTV

Conductor material RG59	Plain annealed copper
Insulation RG59	Solid Polyethylene
Screen RG59	Copper wire braid (either 84% or 95% coverage)
Outer sheath	PVC

Construction characteristics RG6 TV Antenna / TV Lead in

Conductor Material RG6	Copper Clad Steel
Insulation RG6	Foamed Polyethylene
Screen RG6	AL Foil and Copper wire braid
Outer sheath	PVC

Product List

Nexans ref.	Old Code	Type	Stranding No./mm	Nom Dia mm	Pack Size *	Approx Mass kg/m
RG59 Closed Circuit Television (CCTV)						
JBCRG59BUCCTV*	3179	RG59	1/0.60	6.2	A, B, D	0.05
JBCRG59PREMA1	8234	RG59	1/0.60	6.2	100	0.06
RG6 TV Antenna / TV Lead-in						
JBCRG6QUAD*	5921	RG6	1/1.0	7.5	A, F	0.05

Electrical Characteristics

Nexans ref.	Shielding	Dielectric	Max DC Resist. @ 20°C Ohm/km	Nom Cap pF/m	Nom Velocity Prop %
JBCRG59BUCCTV	84% B/C Braid	Solid PE	62.0	67	66
JBCRG59PREMA1	95% B/C Braid	Solid PE	62.2	67	66
JBCRG6QUAD	Quad Shield Al Foil, 60% Braid Al Foil, 40% Braid	Foamed PE	100	53	84

Pack Size

Reference	Size	Code
A	100m Spool	1
B	250m Spool	25
D	250m Spool	2
F	300m Box	B30

Composite Coaxial & Control core



Standards
Manufacturer
Specification

Characteristics

Construction characteristics

Conductor material (Power core)	Plain annealed copper
Insulation (Power core)	PVC
Conductor material (RG59)	Plain annealed copper
Insulation (RG59)	Polyethylene
Screen	Copper braid
Shielding	85% B/C Braid
Overall Outer sheath	PVC

Electrical characteristics

Rated Voltage U _o /U (Power core)	250/250 V
Nominal capacity value (RG59)	67 pF/m
Nominal velocity propagation (RG59)	66%

Product List

Nexans ref.	Old Code	Nom Dia mm	Nom Ins Thickness mm	Power Core Stranding No./mm	Max DC Resist. @ 20°C Ohm/km	Pack Size *	Approx Mass kg/m
JCOMP85*	1231	7.8 x 13	0.75	24/0.20	26.4	A, B, D	0.12

Pack Size

Reference	Size	Code
A	100m Spool	A1
B	250m Spool	BA25
D	500m Spool	BA5

* Refer to JBCRG59BUCCTV for coaxial cable details on page 63

LAN



Standards
Manufacturer
Specification

Characteristics

Construction characteristics

Conductor material	Copper
Insulation	Polyolefin
Outer sheath	PVC

Dimensional characteristics

Stranding (No./mm)	1/0.50
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Electrical characteristics

Nominal impedance	100 Ohm
Max. DC resistance of the conductor at 20°C (Ohm/km)	93.8

Product List

Nexans ref.	Old Code	No. Of Pairs.	Area mm ²	Sheath	Mutual Cap pF/m	Nom Dia mm	Pack Size	Approx Mass kg/m
Category 5E (Solid)								
JCAT5E04RDB	4030	4	0.22	RD	51	5.3	300m Box	0.03
JCAT5E04YWB	2004	4	0.22	YE	51	5.3	300m Box	0.03
Category 5E (Underground)								
JCAT5EFPA3	2697	4	0.22	BK	51	5.7	300m Spool	0.03
Category 5E (Screened)								
JCAT5ESCRB30	1188	4	0.22	GY	50	5.3	300m Box	0.05
Category 6								
JCAT604GYB30	6626	4	0.22	GY	51	6.3	300m Box	0.04

Note: Compatible with RJ type connector

Optical Fibre



Standards
Manufacturer
Specification

Characteristics

Construction characteristics

Reinforcement members material type	Aramid yarn
Outer sheath	Polyethylene/nylon

Product List

Nexans ref.	Old Code	Name	No. optical fibres	Nom Dia mm	Max. Pulling tension (kN)	Min Bending Radius (mm)		Approx Mass kg/m
						During Instal.	Installed	
Single Mode (OS1)								
FIB06SMJN	2436	10/125 μ m SM 6 fibre	6	8.5	1.5	170	85	0.06
FIB12SMJN	9921	10/125 μ m SM 12 fibre	12	8.5	1.5	170	85	0.06
FIB24SMJN	9428	10/125 μ m SM 24 fibre	24	11	2.3	220	110	0.1
Multi Mode (OM1)								
FIB06MMJN	3163	62.5/125 μ m MM 6 fibre	6	8.5	1.5	170	85	0.06
FIB08MMJN	2184	62.5/125 μ m MM 8 fibre	8	8.5	1.5	170	85	0.06
FIB12MMJN	1084	62.5/125 μ m MM 12 fibre	12	8.5	1.5	170	85	0.06
FIB24MMJN	7078	62.5/125 μ m MM 24 fibre	24	8.5	1.5	170	85	0.06

Telephone Internal



Standards
Manufacturer
Specification

Characteristics

Construction characteristics

Conductor material	Solid copper
Insulation	PE (Twisted Pairs)
Outer sheath	Cream PVC

Product List

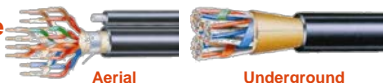
Nexans ref.	Old Code	No. Of Pairs.	Wire Size mm	Nom. Overall dia.	Sheath	Pack Size	Approx Mass kg/m
TINT002AA	3309	2	0.5	4.1	Cream	100m Spool	0.01
TINT025A9	5464	25	0.5	12.8	Grey	On Request	0.18

Pair Colours

Pair Number	Wire 1	Wire 2	Pair Number	Wire 1	Wire 2
1	WH	BU	14	BK	BN
2	WH	OG	15	BK	GY
3	WH	GN	16	YE	BU
4	WH	BN	17	YE	OG
5	WH	GY	18	YE	GN
6	RD	BU	19	YE	BN
7	RD	OG	20	YE	GY
8	RD	GN	21	PU	BU
9	RD	BN	22	PU	OG
10	RD	GY	23	PU	GN
11	BK	BU	24	PU	BN
12	BK	OG	25	PU	GY
13	BK	GN			

Note: TINT002 colour sequence is WH/BU, RD/BK

Telephone External



Standards
Manufacturer
Specification

Characteristics

Construction characteristics

Conductor material	Solid copper
Insulation	PE (Twisted Pairs)
Filling (Underground)	Twisted unit pair jelly filled
Bearer Wire (Aerial)	Galvanised solid high tensile steel
Screen (Underground)	Paper tape wrap
Outer sheath	PE

Electrical Characteristics

Max. DC resistance of the conductor at 20° C	58.6
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Product List - Aerial

Nexans ref.	Old Code	No. Of Pairs.	Wire Size mm	Nom. Overall dia.	Pack Size	Approx Mass kg/m
TEXT64IB002A5	3018	2	0.64	8.2 x 5.2	500	0.05

Product List - Underground

Nexans ref.	Old Code	No. Of Pairs.	Wire Size mm	Nom. Overall dia.	Pack Size	Approx Mass kg/m
TEXT64FP002*	5658	2	0.64	5.7	A, D or G	0.03
TEXT64FP004	6526	4	0.64	6.6	Bulk Drum	0.06
TEXT64FP010	5757	10	0.64	9.6	Bulk Drum	0.13

Pair Colours

Pair Number	Wire 1	Wire 2	Pair Number	Wire 1	Wire 2
1	WH	BU	6	RD	BU
2	WH	OG	7	RD	OG
3	WH	GN	8	RD	GN
4	WH	BN	9	RD	BN
5	WH	GY	10	RD	GY

* Pack Size

Reference	Size	Code
A	100m Spool	A1
D	500m Spool	A25
G	Bulk	

Garden Lighting



Standards
Manufacturer
Specification

Characteristics

Construction characteristics

Conductor material	Plain annealed copper
Type of conductor	Stranded copper
Insulation	PVC (Parallel Web)

Electrical Characteristics

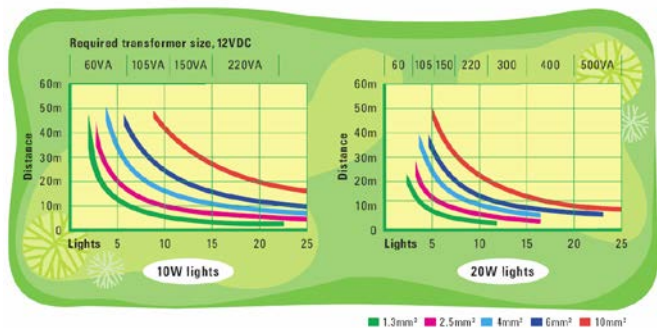
Maximum operating voltage	50 VAC / 120 VDC
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Usage characteristics

Maximum operating temperature	75°C
Waterproof	Yes

Product List - Aerial

Nexans ref.	Old Code	Cores x Area mm ²	Max. DC Resist. Cond. 20°C (Ohm/km)	Volt. Drop single phase @ 45°C (mV/A.m)	Stranding (No./mm)	Nom Overall Size	Approx Mass kg/m
JSF1.3GLBK100	2592	2 x 1.3	15.30	33.60	26/0.25	4.0 x 8.6	0.07
JSF4GLBK100	4775	2 x 4	4.95	10.90	56/0.30	5.0 x 10.4	0.12
JSF6GLBK100	6923	2 x 6	3.30	7.25	81/0.30	6.0 x 12.5	0.16
JSF10GLBK100	9750	2 x 10	1.91	4.20	348/0.20	6.7 x 13.9	0.25



Fire Alarm Cable



Analogue



Halogen Free

Standards
Manufacturer
Specification

Characteristics - Analogue

Construction characteristics

Conductor material	Copper
Type of conductor	Stranded
Insulation	PVC
Outer sheath	PVC

Electrical Characteristics

Max. DC resistance of the conductor at 20°C (Ohm/km)	15.6
Rated Voltage U ₀ /U	450/750 V

Product List – Analogue

Nexans ref.	Old Code	Cores x Area mm ²	Standing No./mm	Nom. Overall Dia (mm)	Approx Weight (kg/m)
QACR50A2002GXJB	5578	2 x 1.25 (RD)	16/0.32	7.3	0.6
QACR50A2002GXHF	2405	2 x 1.25 (GY)	16/0.32	7.3	0.6

Characteristics – Halogen Free

Construction characteristics

Conductor material	Copper
Drain wire	Solid tinned copper
Insulation	Silicone
Material	Glass fibre
Screen	Aluminium/plastic tape
Outer sheath	Halogen free flame retardant

Electrical Characteristics

Maximum operating voltage	225 V
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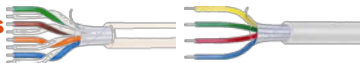
Usage characteristics

Operating temperature fixed range	-30 to 70°C
Operating temperature flexing range	-5 to 50°C

Product List – Halogen Free

Nexans ref.	Old Code	No. of pairs	Nom. Overall diam. (mm)	Sheath colour	Pack size	Approx Weight (kg/m)
OLX34148	7661	2	7.5	Orange	Bulk drum	0.7

Data Cables Screened



RS422 (Pair)

RS232 (Cores)

Standards
Manufacturer
Specification

Characteristics

Construction characteristics	
Conductor material	Tinned stranded copper
Drain wire	Yes
Insulation (RS422 Pair)	PE
Insulation (RS232 Cores)	PVC
Screen	Aluminium foil
Outer sheath (RS422 Pair)	Cream PVC
Outer sheath (RS232 Cores)	Grey PVC

Product List – RS422 (Pair)

Nexans ref.	Old Code	No of Pairs	Stranding No./mm	Nom Dia mm	Nom. Pair Cap. pF/m	Max. DC resist. of cond. at 20°C	Pack size	Approx Mass kg/m
JD1PS	3417	1	7/0.20	4.4	70	93.3	305	0.02
JD2PS	3406	2	7/0.20	5.5	70	93.3	305	0.03
JD3PS	2478	3	7/0.20	6.0	70	93.3	305	0.04
JD4PS	7090	4	7/0.20	6.2	70	93.3	305	0.05

Product List – RS232 (Cores)

Nexans ref.	Old Code	No of Cores	Stranding No./mm	Nom Dia mm	Max. DC resist. of cond. at 20°C	Pack size	Approx Mass kg/m
Conductor size 0.22mm²							
JD6CSAAA1	4240	6	7/0.20	5.5	93.3	100m Spool	0.04
Conductor size 0.50mm²							
SD2CSA3	9435	2	7/0.30	5.2	37.9	300m Box	0.02
SD3CSA3	9476	3	7/0.30	5.6	37.9	300m Box	0.02

Pair Colours

Pair Number	Wire 1	Wire 2
1	WH	BU
2	WH	OG
3	WH	GN
4	WH	BN

Core Colours

No of Cores	Colour	No. of Cores	Colour
1	RD	4	YE
2	BU	5	WH
3	GN	6	BK



FIRE PERFORMANCE



Ultimate fire protection.

Fire may destroy everything else in its path, but Alsecure® Ceramifiable® literally gets tougher. Ceramifiable's insulation layer hardens into a protective ceramic shield when exposed to fire, maintaining circuit integrity and life-saving essential services. Alsecure® Ceramifiable® stands up to fire without mica tape, making it more flexible and easier to strip than traditional fire rated cables.

Alsecure® Premium INFIT™ Ceramifiable® Flex 90°C



Standards
AS/NZS 5000.1
AS/NZS 3013:2005

Characteristics

Construction characteristics	
Conductor material	Annealed Copper
Type of conductor	Stranded flexible
Insulation	Ceramifiable®
Outer sheath	Red HFS-90-TP
Halogen free	Yes
Electrical Characteristics	
Rated Voltage U _o /U (Um)	0.6/1 (1.2) kV
Usage characteristics	
Maximum operating temperature	90°C
Flame retardant	Yes
Smoke density	Low
Fire rated	WS52W

Product List

Nexans ref.	Area mm ²	Nom insul. thick. (mm)	Nom. Outer sheath thickness (mm)	Min. bend. Radius during instal	Max. pulling tension (kN)	Nom. Overall dia. (mm)	Approx Mass kg/m
PEKX01AA001	10	1.0	1.4	55	0.2	9.4	0.18
PEKX02AA001	16	1.0	1.4	60	0.3	10.4	0.24
PEKX03AA001	25	1.2	1.4	70	0.5	12.0	0.35
PEKX04AA001	35	1.2	1.4	80	0.8	13.6	0.45
PEKX05AA001	50	1.4	1.4	95	1.1	15.6	0.61
PEKX06AA001	70	1.4	1.4	105	1.5	17.3	0.82
PEKX07AA001	95	1.6	1.5	120	2.1	19.6	1.09
PEKX08AA001	120	1.6	1.5	130	2.6	21.7	1.31
PEKX09AA001	150	1.8	1.6	145	3.3	23.8	1.60
PEKX10AA001	185	2.0	1.7	160	4.0	26.4	1.94
PEKX11AA001	240	2.2	1.8	180	5.2	29.6	2.55
PEKX68AA001	300	2.4	1.9	195	6.5	32.7	3.10
PEKX69AA001	400	2.6	2.0	220	8.7	36.6	3.98
PEKX70AA001	500	2.8	2.1	250	10.9	41.9	5.17
PEKX71AA001	630	2.8	2.2	275	13.7	45.6	6.57

Alsecure[®] Premium INFIT[™] Ceramifiable[®] Multicore 90°C



Standards
AS/NZS 5000.1
AS/NZS 3013:2005

Characteristics

Construction characteristics

Conductor material	Copper
Type of conductor	Circular stranded
Insulation	Ceramifiable [®]
Outer sheath	Red HFS-90-TP
Halogen free	Yes

Electrical Characteristics

Rated Voltage U ₀ /U (Um)	0.6/1 (1.2) kV
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Usage characteristics

Maximum operating temperature	90°C
Flame retardant	Yes
Smoke density	Low
Fire resistant	AS/NZS 3013:2005 & IEC 60331

Product List

Nexans ref.	Old Code	Cores x Area mm ²	Nom insulation thickness (mm)	Nom outer sheath thickness (mm)	Nom Dia mm	Approx Mass kg/m
Two Core						
PEKE99AA002	-	2 x 0.75	1.0	1.8	10.6	0.14
PEKP03AA002	-	2 x 1.0	1.0	1.8	10.7	0.14
PEKP05AA002	-	2 x 1.5	1.0	1.8	11.3	0.17
PEKP07AA002	4345	2 x 2.5	1.0	1.8	12.3	0.21
PEKP09AA002	-	2 x 4	1.0	1.8	13.4	0.26
Two Core Plus Earth						
PDKP05AA002	7067	2x 1.5 + E	1.0	1.8	11.8	0.19
PDKP07AA002	5502	2 x 2.5 + E	1.0	1.8	13.0	0.25
PDKP09AA002	8404	2 x 4 + E	1.0	1.8	13.8	0.29
PDKP11AA002	3792	2 x 6 + E	1.0	1.8	14.7	0.35
PDKP13AA002	9169	2 x 10 + E	1.0	1.8	16.3	0.48
Three Core						
PEKE99AA003	-	3 x 0.75	1.0	1.8	11.1	0.16
PEKP03AA003	-	3 x 1.0	1.0	1.8	11.2	0.16
PEKP05AA003	-	3 x 1.5	1.0	1.8	11.8	0.19
PEKP07AA003	-	3 x 2.5	1.0	1.8	13.0	0.25
PEKP09AA003	-	3 x 4	1.0	1.8	14.1	0.31

continued...

**Alsecure[®] Premium
INFIT[™] Ceramifiable[®]
Multicore 90°C**



Standards
AS/NZS 5000.1
AS/NZS 3013:2005

Nexans ref.	Old Code	Cores x Area mm ²	Nom insulation thickness (mm)	Nom outer sheath thickness (mm)	Nom Dia mm	Approx Mass kg/m
Three Core Plus Earth						
PDKP05AA003	6651	3 x 1.5 + E	1.0	1.8	12.8	0.22
PDKP07AA003	3934	3 x 2.5 + E	1.0	1.8	14.0	0.30
PDKP09AA003	4614	3 x 4 + E	1.0	1.8	15.0	0.36
PDKP11AA003	1221	3 x 6 + E	1.0	1.8	16.0	0.44
PDKP13AA003	6960	3 x 10 + E	1.0	1.8	17.9	0.60
PDKP15AA003	5768	3 x 16 + E	1.0	1.8	20.1	0.84
PDKP17AA003	-	3 x 25 + E	1.2	1.8	22.6	1.17
PDKP18AA003	-	3 x 35 + E	1.2	1.8	25.3	1.56
Four Core						
PEKE99AA004	-	4 x 0.75	1.0	1.8	12.0	0.19
PEKP03AA004	-	4 x 1.0	1.0	1.8	12.1	0.19
PEKP05AA004	-	4 x 1.5	1.0	1.8	12.7	0.21
PEKP07AA004	-	4 x 2.5	1.0	1.8	14.0	0.30
Four Core Plus Earth						
PDKP05AA004	3725	4 x 1.5 + E	1.0	1.8	12.9	0.23
PDKP07AA004	9805	4 x 2.5 + E	1.0	1.8	14.3	0.31
PDKP09AA004	8361	4 x 4 + E	1.0	1.8	16.4	0.43
PDKP11AA004	9773	4 x 6 + E	1.0	1.8	17.6	0.53
PDKP13AA004	4844	4 x 10 + E	1.0	1.8	19.7	0.74
PDKP15AA004	7068	4 x 16 + E	1.0	1.8	22.2	1.03
PDKP17AA004	7799	4 x 25 + E	1.2	1.8	25.0	1.45
PDKP18AA004	3708	4 x 35 + E	1.2	1.8	28.0	1.95
PDKP19AA004	3909	4 x 50 + E	2.0	2.0	32.3	2.65

Alsecure[®] Premium INFIT[™] Ceramifiable[®] Instrumentation & Data



Standards
AS/NZS 3013:2005
IEC 60331

Characteristics

Construction characteristics	
Conductor material	Annealed stranded copper
Insulation	Ceramifiable [®] (twisted pairs)
Overall Screen	Aluminium polyester laminate tape + stranded tinned annealed copper drain wire
Outer sheath	Red HFS-90-TP
Halogen free	Yes
Electrical Characteristics	
Maximum operating Voltage	110 VAC / 150 VDC
Usage characteristics	
Maximum operating temperature	90°C
Flame retardant	Yes
Smoke density	Low

Product List

Nexans ref.	No. Pairs	Nom. overall diam (mm)	Min. bend. Rad during instal. (mm)	Max. Pulling tension (kN)	Approx Mass kg/m
Conductor 0.75mm²					
PBKP03AA001	1	7.8	115	0.06	0.065
PBKP03AA002	2	12.2	185	0.12	0.122
PBKP03AA004	4	13.5	200	0.24	0.205
PBKP03AA006	6	16.3	240	0.36	0.293
PBKP03AA008	8	18.6	280	0.48	0.382
PBKP03AA010	10	20.4	310	0.60	0.462
PBKP03AA012	12	22.3	340	0.72	0.550
PBKP03AA016	16	25.5	380	0.96	0.717
PBKP03AA020	20	28.3	430	1.2	0.885
PBKP03AA024	24	30.9	460	1.4	1.052
Conductor 1.5mm²					
PBK184AA001	1	8.4	125	0.12	0.079
PBK184AA002	2	13.2	200	0.24	0.158
PBK184AA004	4	14.7	220	0.48	0.256
PBK184AA006	6	17.6	270	0.72	0.369
PBK184AA008	8	20.2	300	0.96	0.482
PBK184AA010	10	22.4	340	1.2	0.596
PBK184AA012	12	24.5	370	1.4	0.710
PBK184AA016	16	28.0	420	1.9	0.927
PBK184AA020	20	31.1	470	2.4	1.145
PBK184AA024	24	33.9	500	2.9	1.362



AERIAL

New Zealand's cable specialist.

Nexans New Zealand offers a proud history of cable manufacturing expertise, with more than 40 years experience in the industry. Nexans New Zealand offers market leadership in design, quality engineering excellence, distributions and customer service.

AAC Aerial Conductors



Bare



Covered

Standards
AS 1531 (Bare)
AS/NZS 5000.1 (Covered)

Characteristics

Construction characteristics

Conductor material	Aluminium
Outer sheath (Covered Only)	PVC

Product List - Bare

Nexans ref.	Cross section (mm ²)	Stranding No./mm	Nom. overall diam. (mm)	Approx. Mass (kg/m)	Breaking Load (kN)
Namu (MTO)	24.5	7/2.11	6.33	0.07	4.07
Ladybird (MTO)	42.8	7/2.79	8.37	0.12	6.92
Kutu (MTO)	49.5	7/3.00	9.00	0.14	7.98
Fly (MTO)	63.6	7/3.40	10.2	0.17	9.98
Rango	73.6	7/3.66	11.0	0.20	11.2
Grasshopper (MTO)	84.1	7/3.91	11.7	0.23	12.8
Wasp	106	7/4.39	13.2	0.29	16.1
Beetle	106	19/2.67	13.4	0.29	17.2
Weke	122	7/4.72	14.2	0.34	18.6
Bee	132	7/4.90	14.7	0.36	20.1
Cricket	158	7/5.36	16.1	0.43	24.0
Weta	167	19/3.35	16.8	0.46	26.2
Cockroach	266	19/4.22	21.1	0.73	40.4
Butterfly	323	19/4.65	23.3	0.89	49.1
Centipede (MTO)	415	37/3.78	26.3	1.12	63.3
Cicada (MTO)	628	37/4.65	32.6	1.73	95.6

Product List – Covered

Nexans ref.	Cross Section (mm ²)	Stranding No./mm	Nom. Cover Thickness (mm)	Nom. diam. (mm)	Approx Mass (kg/m)	Breaking Load (kN)
Namu CVD	24.5	7/2.11	1.2	8.9	0.12	4.07
Ladybird CVD	42.8	7/2.79	1.4	11.4	0.20	6.92
Kutu CVD	49.5	7/3.00	1.4	12.0	0.22	7.98
Fly CVD	63.6	7/3.40	1.4	13.2	0.28	9.98
Rango CVD	73.6	7/3.66	1.4	14.0	0.31	11.2
Wasp CVD	106	7/4.39	1.6	16.6	0.44	16.1
Beetle CVD	106	19/2.67	1.6	16.8	0.44	17.2
Weke CVD	122	7/4.72	1.8	18.0	0.52	18.6
Weta CVD	167	19/3.35	1.8	20.7	0.65	26.2

MTO = Made to Order

AAAC Aerial Conductors



Bare



Covered

Standards
AS 1531 (Bare)
AS/NZS 5000.1 (Covered)

Characteristics

Construction characteristics

Conductor material	1120 Aluminium Alloy
Outer sheath (Covered Only)	PVC

Product List – Bare

Nexans ref.	Old Code	Cross Sect. Area mm ²	Stranding No./mm	Nom Dia mm	Approx Mass kg/m	Breaking Load (kN)
Chlorine (MTO)	6854	34.4	7/2.50	7.5	0.09	8.18
Chlorine GC	3478	34.4	7/2.50	7.5	0.09	8.18
Fluorine (MTO)	5467	49.5	7/3.00	9.0	0.14	11.8
Fluorine GC	9654	49.5	7/3.00	9.0	0.14	11.8
Helium (MTO)	6532	77.3	7/3.75	11.3	0.21	17.6
Helium GC (MTO)	2789	77.3	7/3.75	11.3	0.21	17.6
Hydrogen (MTO)	1854	111	7/4.50	13.5	0.30	24.3
Hydrogen GC (MTO)	5867	111	7/4.50	13.5	0.30	24.3
Iodine (MTO)	4521	124	7/4.75	14.3	0.34	27.1
Iodine GC	9621	124	7/4.75	14.3	0.34	27.1
Krypton	3579	158	19/3.25	16.3	0.43	37.4
Krypton GC (MTO)	7523	158	19/3.25	16.3	0.43	37.4
Neon (MTO)	5632	210	19/3.75	18.8	0.58	47.8
Neon GC	1235	210	19/3.75	18.8	0.58	47.8
Nitrogen GC (MTO)	6080	262	37/3.00	21.0	0.72	62.2

GC = Greased core

MTO = Made to Order

Product List – Covered

Nexans ref.	Old Code	Cross Sect. Area mm ²	Stranding No./mm	Nom Dia mm	Approx Mass kg/m	Breaking Load (kN)
Fluorine CVD	8169	49.5	7/3.00	12.0	0.22	11.8
Hydrogen CVD	8662	111	7/4.50	16.9	0.46	24.3
Krypton CVD	8585	158	19/3.25	19.7	0.61	37.4

ACSR Aerial Conductors



Bare



Covered

Standards
AS 3607 (Bare)
AS/NZS 5000.1 (Covered)

Characteristics

Construction characteristics

Conductor material	Aluminium / Steel Core
Reinforcement members material type	Galvanised steel
Outer sheath (Covered Only)	PVC

Product List - Bare

Nexans ref.	Old Code	Equ Alu Cross Sec Area mm ²	Stranding No./mm		Nom Dia mm	Breaking Load (kN)	Approx Mass kg/m
			Alu	Steel			
Magpie (MTO)	4684	12.7	3/2.11	4/2.11	6.3	17.4	0.14
Squirrel	1974	20.7	6/2.11	1/2.11	6.3	7.49	0.09
Gopher (MTO)	2686	26.0	6/2.36	1/2.36	7.1	9.37	0.11
Ferret	8966	41.8	6/3.00	1/3.00	9.0	14.9	0.17
Mink (MTO)	9316	62.2	6/3.66	1/3.66	11.0	21.6	0.26
Raccoon (MTO)	8209	77.7	6/4.09	1/4.09	12.3	27.0	0.32
Dog	6801	103.0	6/4.72	7/1.57	14.2	32.9	0.40

Product List – Covered

Nexans ref.	Old Code	Equ Al Cross Sec Area mm ²	Stranding No./mm		Nom Dia mm	Breaking Load (kN)	Approx Mass kg/m
			Alu	Steel			
Squirrel CVD	8620	20.7	6/2.11	1/2.11	9.1	7.49	0.14
Ferret CVD	5504	41.8	6/3.00	1/3.00	12.2	14.9	0.27

Al Aerial Bundled Cables (ABC)



Standards
AS/NZS 3560.1

Characteristics

Construction characteristics	
Conductor material	Aluminium
Outer sheath	XLPE
Electrical characteristics	
Rated Voltage U ₀ /U (Um)	0.6/1 (1.2) kV
Usage characteristics	
Maximum operating temperature	80°C

Product List

Nexans ref.	Old Code	Cores x Area mm ²	Cond. Dia mm	Ins. Thick. mm	Nom Dia of Bundle mm	Approx Mass kg/m
Two Core						
XDAB17AA002AALL	6166	2 x 25	5.99	1.3	18.4	0.20
XDAB18AA002AALL	1566	2 x 35	6.90	1.3	20.6	0.26
XDAB19AA002AALL	2259	2 x 50	8.05	1.5	23.8	0.35
XDAB22AA002AALL	6877	2 x 95	11.40	1.7	31.8	0.68
Three Core						
XDAB18AA003AALM	1991	3 x 35	6.90	1.3	22.2	0.39
Four Core						
XDAB17AA004AALP	1152	4 x 25	5.99	1.3	22.2	0.40
XDAB18AA004AALP	4001	4 x 35	6.90	1.3	24.9	0.52
XDAB19AA004AALP	5517	4 x 50	8.05	1.5	28.7	0.70
XDAB20AA004AALP	9523	4 x 70	9.69	1.5	32.8	0.96
XDAB22AA004AALP	8256	4 x 95	11.40	1.7	38.4	1.35
Four Core Plus Pilot						
XDAB18AAP04AALP	3635	4 x 35 + 16 P	6.90	1.3	25.4	0.61
XDAB20AAP04AALP	4520	4 x 70 + 16 P	8.05	1.5	33.3	1.05
XDAB22AAP04AALP	5742	4 x 95 + 16 P	11.40	1.7	39.1	1.44
XDAB22AAL04AALP	4940	4 x 95 + 16 P (x2)	11.40	1.7	39.1	1.50

Al Binder Wire



Bare



Covered

Standards (Olex Standards)
OS 19:2001 (Bare)
OS 18:2001 (Covered)

Characteristics

Construction characteristics

Conductor material	Solid Aluminium
Outer sheath (Covered Only)	PVC

Product List - Bare

Nexans ref.	Old Code	Wire Dia mm	Pack Size	Approx Mass kg/m
ACBL36AA001AAAA	8858	3.2	200	0.02
ACBL39AA001AAAA	5256	4.2	100	0.04
ACBL42AA001AAAA	5392	5.2	100	0.06

Product List – Covered

Nexans ref.	Old Code	Wire Dia mm	Pack Size	Approx Mass kg/m
ACCL36AA001BKAA	9795	3.2	100	0.04

Cu Aerial – Hard Drawn



Bare



Covered

Standards
AS 1746 (Bare)
AS/NZS 5000.1 (Covered)

Characteristics

Construction characteristics

Conductor material	Hard Drawn Copper
Outer sheath (Covered Only)	PVC

Product List - Bare

Nexans ref.	Old Code	Area mm ²	Stranding No./mm	Nom Dia mm	Approx Mass kg/m
ACUT11AA001AAAA	1095	6	7/1.04	3.1	0.05
ACUT75AA001AAAA	2577	7	7/1.12	3.4	0.06
ACUT13AA001AAAA	1525	10	7/1.35	4.1	0.09
ACUT15AA001AAAA	5513	16	7/1.70	5.1	0.14
ACUT17AA001AAAA	2258	25	7/2.14	6.4	0.23
ACUT18AA001AAAA	9778	35	19/1.53	7.7	0.31
ACUT70AA001AAAA	6174	40	19/1.63	8.2	0.36
ACUT19AA001AAAA	9530	50	19/1.83	9.2	0.45
ACUT20AA001AAAA	1413	70	19/2.14	10.7	0.62
ACUT22AA001AAAA	1319	95	37/1.83	12.8	0.88

Product List – Covered

Nexans ref.	Old Code	Area mm ²	Stranding No./mm	Nom Cover Thick mm	Nom Dia mm	Approx Mass kg/m
BAAT11AA001AABK	7089	6	7/1.04	1.0	5.3	0.08
BAAT13AA001AABK	1775	10	7/1.35	1.0	6.2	0.12
BAAT15AA001AABK	3019	16	7/1.70	1.0	7.2	0.18
BAAT16AA001AABK	4277	25	7/2.14	1.2	9.3	0.30
BAAT18AA001AABK	4241	35	19/1.53	1.2	10.2	0.37
BAAT70AA001AABK	4647	40	19/1.63	1.4	11.2	0.43
BAAT19AA001AABK	5940	50	19/1.83	1.4	12.2	0.54
BAAT20AA001AABK	7378	70	19/2.14	1.4	13.7	0.71
BAAT22AA001AABK	1695	95	37/1.83	1.6	16.2	1.01

Cu Aerial Trurip



Standards
AS/NZS 5000.1

Characteristics

Construction characteristics

Conductor material	Hard drawn copper
Outer sheath	PVC

Electrical Characteristics

Rated Voltage U ₀ /U (U _m)	0.6/1 (1.2) kV
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Usage characteristics

Maximum operating temperature	75°C
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Product List

Nexans ref.	Old Code	Cores x Area mm ²	Nom Dia mm	Approx Mass kg/m
DAAT15AA002AABK	6668	2 x 16	15.4	0.35
FAAT15AA003AABK	7980	3 x 16	23.5	0.53

Cu Aerial Neutral Screen



Standards
AS/NZS 4961

Characteristics

Construction characteristics

Conductor material	Hard drawn copper
Insulation	PVC
Screen	Copper wire
Outer sheath	PVC

Electrical Characteristics

Rated Voltage U ₀ /U (Um)	0.6/1 (1.2) kV
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Usage characteristics

Maximum operating temperature	75°C
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Product List

Nexans ref.	Old Code	Cores x Area mm ²	Nom Dia mm	Approx Mass kg/m
Single Core				
BAGT11AA001CXR	2559	1 x 6	10.1	0.20
BAGT15AA001CXR	3481	1 x 16	12.8	0.41
Single Core plus Pilot				
QDAT15AA001CXR	9643	1 x 16 + 2.5 P	19.5	0.53
Two Core				
DAET15AA002CXAB	6831	2 x 16	19.6	0.63
Two Core plus Pilot				
QDHT15AA002CXR	8280	2 x 16 + 2.5 P	21.0	0.78
Three Core				
FAGT11AA003CXRJ	4674	3 x 6	16.2	0.43
FAGT13AA003CXRJ	7695	3 x 10	18.2	0.59
FAGT15AA003CXRJ	6234	3 x 16	20.7	0.87
Three Core plus Pilot				
QDHT15AA003CXRJ	3771	3 x 16 + 2.5 P	22.8	0.99

Cu Binder Wire



Bare



Covered

Standards (Olex Standards)
OS 19:2001 (Bare)
OS 18:2001 (Covered)

Characteristics

Construction characteristics

Conductor material	Solid copper
Outer sheath (Covered Only)	PVC

Product List - Bare

Nexans ref.	Old Code	Wire Dia mm	Pack Size	Approx Mass kg/m
ACUL03A2001AAAA	4725	1.70	200	0.02
ACUL04A2001AAAA	7034	2.03	200	0.03
ACUL08A1001AAAA	4973	2.52	100	0.05

Product List – Covered

Nexans ref.	Old Code	Wire Dia mm	Pack Size	Approx Mass kg/m
ACCL03A1001AABK	7872	1.70	100	0.03
ACCL04A1001AABK	9565	2.03	100	0.04
ACCL08A1001AABK	5538	2.52	100	0.05
ACCL0A19001AABK	8541	2.64	100	0.06



GLANDS & ACCESSORIES

Total cable solutions.

CMP and Varitex™ are leading brands of metallic cable glands and accessories developed for use in a wide variety of markets, sectors and industries. Nexans New Zealand supplies these high quality products to the New Zealand market.

Glands

A2 Industrial Glands - Sets

Indoor/outdoor gland for all types of unarmoured cable providing a seal on the outer sheath. **Gland Sets include a locknut and sealing washer.**

Nexans ref.	Gland Size	Cable Dia (mm)		Shroud Ref
		min 'A'	max	
GLAND674	A2 20S/16 (SET)	3.2	8.7	04
GLAND979	A2 20S (SET)	6.1	11.7	04
GLAND005	A2 20 (SET)	6.5	14.0	05
GLAND333	A2 25 (SET)	11.1	20.0	09
GLAND224	A2 32 (SET)	17.0	26.3	10
GLAND431	A2 40 (SET)	23.5	32.2	13
GLAND615	A2 50S (SET)	31.0	38.2	14
GLAND701	A2 50 (SET)	35.6	44.1	17/230
GLAND860	A2 63S (SET)	41.5	50.0	20
GLAND442	A2 63 (SET)	47.2	56.0	22

A2F Dual Certified EEx'd' & EEx'e' Glands

Indoor and outdoor cable gland for use in Zone 1, 2, 21 and 22 Hazardous Areas with all types of unarmoured cable, providing a flameproof seal on the cable outer sheath.

Nexans ref.	Gland Size	Cable Dia (mm)		Shroud Ref
		min 'A'	max	
GLAND919	A2F 20S/16	3.2	8.7	TBC
GLAND028	A2F 20S	6.1	11.7	03
GLAND918	A2F 20	6.5	14.0	05
GLAND676	A2F 25	11.1	20.0	08
GLAND671	A2F 32	17.0	26.3	10
GLAND511	A2F 40	23.5	32.2	12
GLAND100	A2F 50	35.6	44.1	17/230
GLAND277	A2F 63S	41.5	50.0	20

Glands

VSD Glands – CCG Type Varitex™

For use with Varolex cables. Indoor and outdoor cable gland providing a seal on the cable outer sheath and a continuity connection on the copper tape screen.

Nexans ref.	Gland Size	Cable detail			
		Inner over Tape (mm)		Outer (mm)	
		Min 'A'	Max 'A'	Min 'B'	Max 'B'
GLAND854	0-20	10.8	12.5	13.0	20.0
GLAND856	1-20	12.2	14.0	13.0	20.0
GLAND845	2-25S	13.8	16.0	18.0	26.0
GLAND857	2-25	16.0	20.0	18.0	26.0
GLAND858	3-32S	20.0	23.0	23.0	28.0
GLAND846	3-32	22.0	23.5	23.0	28.0
GLAND853	4-40S	23.5	28.0	28.0	39.5
GLAND843	4-40	28.0	32.0	28.0	39.5
GLAND849	5-50S	32.0	36.0	35.2	42.0
GLAND861	5-50	35.5	39.0	40.0	46.0
GLAND864	6-63S	39.0	45.0	45.5	54.0
GLAND852	6-63	44.0	49.5	45.5	54.0
GLAND847	6-63L	49.0	54.0	54.6	62.0

CW Industrial Glands - Sets

Indoor and outdoor gland for all types of SWA cable, providing environmental seal on the cable outer sheath. The gland also provides mechanical cable retention and electrical continuity via armour wire termination.

Gland Sets include a locknut and sealing washer.

Nexans ref.	Gland Size	Cable Dia (mm) 'A' max	Cable Dia (mm)		Wire Armour (mm)		Shroud Ref
			min	'B' max	min	max	
GLAND830	CW 20S/16 (SET)	8.7	6.1	11.5	0.90	1.00	04
GLAND572	CW 20S (SET)	11.7	9.5	15.9	0.90	1.25	04
GLAND780	CW 20 (SET)	14.0	12.5	20.9	0.90	1.25	06
GLAND428	CW 25 (SET)	20.0	18.2	26.2	1.25	1.60	09
GLAND210	CW 32 (SET)	26.3	23.7	33.9	1.60	2.00	11
GLAND561	CW 40 (SET)	32.2	27.9	40.4	1.60	2.00	15
GLAND332	CW 50S (SET)	38.2	35.2	46.7	2.00	2.50	18
GLAND731	CW 50 (SET)	44.1	40.4	53.1	2.00	2.50	21
GLAND976	CW 63 (SET)	56.0	54.6	65.9	2.00	2.50	25
GLAND865	CW 75S (SET)	62.0	59.0	72.1	2.00	2.50	28
GLAND703	CW 75 (SET)	68.0	66.7	78.5	2.00	2.50	30

Glands

E1FW Dual Certified EEx'd & EEx'e Glands

Indoor and outdoor cable gland for use in Zone 1, 2, 21 and 22 Hazardous Areas with all types of SWA cable providing a flameproof seal on the cable inner sheath and an environmental seal on the cable outer sheath.

Nexans ref.	Gland Size	Cable Dia (mm)		Cable Dia (mm)		Wire Armour (mm)		Shroud Ref
		min 'A'	max	min 'B'	max	min	max	
GLAND978	E1FW 20S/16	3.1	8.6	6.1	13.2	0.80	1.25	04
GLAND770	E1FW 20S	6.1	11.6	9.5	15.9	0.80	1.25	04
GLAND766	E1FW 20	6.5	13.9	12.5	20.9	0.80	1.25	06
GLAND008	E1FW 25	11.1	19.9	18.2	26.2	1.25	1.60	09
GLAND999	E1FW 32	17.0	26.2	23.7	33.9	1.60	2.00	11
GLAND658	E1FW 40	22.0	32.1	27.9	40.4	1.60	2.00	15
GLAND982	E1FW 50S	29.5	38.1	35.2	46.7	2.00	2.50	18
GLAND436	E1FW 50	35.6	44.0	40.4	53.1	2.00	2.50	21
GLAND018	E1FW 63S	40.1	49.9	45.6	59.4	2.00	2.50	23

CX Industrial Glands

Indoor and outdoor cable gland for all types of braided or steel tape armour (STA) cables providing environmental seal on the cable outer sheath. The gland also provides mechanical cable retention and electrical continuity via wire braid or tape armour termination.

Nexans ref.	Gland Size	Cable Dia (mm)		Shroud Ref
		'A' max	min 'B' max	
GLAND742	CX 20S/16	8.7	13.2	04
GLAND174	CX 20S	11.7	15.9	04
GLAND651	CX 20	14.0	20.9	06
GLAND125	CX 25	20.0	26.2	09
GLAND862	CX 32	26.3	33.9	11
GLAND221	CX 40	32.2	40.4	15
GLAND533	CX 50S	38.2	46.7	18
GLAND231	CX 50	44.1	53.1	21

Glands

PX2K Flameproof EE'x'd' Glands

For all types of armoured cables providing an inner Flameproof compound barrier seal around the individual cable cores and an environmental seal on the cable outer sheath. Also equipped with an integral Deluge Protection seal to prevent premature armour corrosion and an armour clamping facility suitable for SWA, Braided or Steel Tape cables. The cable gland also provides electrical continuity via armour termination. Suitable for use in Zone 1, Zone 2, Zone 21 and Zone 22 Hazardous Areas.

Nexans ref.	Gland Size	Cable Dia (mm) 'A' max	Cable Dia (mm) min 'B' max		Wire Armour (mm) min max	
GLAND260	PX2K 20S	12.6	9.5	15.9	0.80	1.25
GLAND190	PX2K 20	12.6	12.5	20.9	0.80	1.25
GLAND162	PX2K 25S	17.5	14.0	22.0	1.25	1.60
GLAND120	PX2K 25	17.5	18.2	26.2	1.25	1.60
GLAND089	PX2K 32	23.6	23.7	33.9	1.60	2.00
GLAND051	PX2K 40	30.0	27.9	40.4	1.60	2.00
GLAND338	PX2K 50S	36.6	35.2	46.7	2.00	2.50
GLAND460	PX2K 75	64.3	66.7	78.5	2.50	3.00

Gland Accessories

Entry Thread Size	Locknuts	Earth Tags	Entry Thread Seals
20	GLAND433	GLAND666	GLAND038
25	GLAND102	GLAND209	GLAND387
32	GLAND568	GLAND082	GLAND791
40	GLAND110	GLAND226	GLAND173
50	GLAND308	GLAND319	GLAND577
63	GLAND863	GLAND523	GLAND839
75	GLAND099	GLAND186	GLAND180

Glands

PVC Shrouds

Shroud Ref	Nexans ref.
02	GLAND840
04	GLAND606
05	GLAND848
06	GLAND217
09	GLAND097
10	GLAND267
11	GLAND282
13	GLAND526
14	GLAND010
15	GLAND192
17/230	GLAND242
18	GLAND850
20	GLAND438
21	GLAND585
22	GLAND620
23	GLAND337
28	GLAND458

Notes



TECHNICAL INFORMATION

Total cable solutions.

Nexans New Zealand is dedicated to providing industry leading service. The following information is provided to assist in the selection of cables and includes a comprehensive listing of general data and current rating.

General Technical Information

Installation Information

General

All cables must be installed to comply with the latest New Zealand Wiring Regulations.

Moisture

Olex cables are manufactured in conditions that exclude moisture, as it is difficult to remove from a finished cable. It is important that precautions are taken during installation to ensure that moisture is not permitted to enter the cable. Cut ends or opened areas must be protected from moisture at all times, including during pulling in. Cables, after cutting, must be re-sealed for storage, by an effective method such as a heat shrinkable cable cap.

Single Core Cables

The following points relating to single core cables should be noted:

1. Single core cables carrying the phase currents of a single circuit must be installed as closely as possible together, to minimise inductive reactance and voltage drop. The preferred formation for three phase conductors is a "trefoil" or cloverleaf pattern although flat touching formation is also acceptable. Sheaths should be in contact with one another in either case.
2. A single core cable generates an alternating magnetic field around itself which can cause large increases in voltage drop and power loss due to "transformer effect" when ferrous metal (iron and steel) is allowed to encircle the cable. Steel racking or ladder will not induce this effect, but the following must be observed:
 - a. Cable cleats may be of wood, plastic, or non-ferrous metal but steel saddles should not be used on single cores.
 - b. Where three single phase cables pass through a steel bulkhead, they must all pass through the same hole. Where glanding is required, it is usual to cut out a panel and replace this with a non-ferrous (metal or plastic) plate in which the three or four glands are mounted.

Cable Support

Under fault conditions, single core cables used as phase conductors in a multi-phase system may be subjected to large electromechanical forces which tend to drive them apart. Generally, properly designed cleats spaced at 1500 mm intervals will provide adequate support to the cable under normal operating conditions. However special consideration may be required if fault currents in excess of 15 kA are anticipated.

continued

General Technical Information

Installation Information (continued)

Green Goo

Also known as “Green Slime”, this phenomenon is characterised by the appearance of a sticky green exudate leaking out of PVC-insulated wiring at locations such as switches, hot points and light fittings. It is a common occurrence in both Australia and New Zealand.

The green goo problem is predominantly associated with older (25+ years) TPS-type cables operating in a warm environment. The exudate comprises a plasticiser that has migrated out of the PVC insulation, coloured due to reaction with the copper conductor, and that has subsequently travelled - by capillary action and/or gravity – along the conductor to emerge at a termination point.

Due to its stickiness and unsightly colour, the goo has a high nuisance value, however it poses no significant health hazard. It may be cleaned from surfaces by wiping with a rag soaked in a petroleum- or alcohol-based solvent (such as meths).

The long-term consequence of the exudate is that it represents a de-plasticising of the insulation, meaning that as the process continues, the PVC will eventually become brittle, and crack.

TPS Cables in Polystyrene Thermal Insulation

With the increasing use of polystyrene block insulation in houses and caravans, it is important to explain the potential problem that arises when PVC sheathed and insulated cables come into direct contact with this material.

The plasticiser that is added to PVC to make it flexible has a tendency to migrate out of the PVC and into materials with which it is in contact, particularly where those materials – such as polystyrene and polyurethane - have a great affinity for the plasticiser. This will lead to the PVC's becoming progressively harder and more brittle, while in contrast the polystyrene will appear to “melt” as it absorbs the plasticiser.

The rate of migration is dependent upon the relative thickness of the materials, the temperature, and the amount of surface area in direct contact. Accordingly, the rate of deterioration of the PVC cable can vary considerably under different circumstances.

To mitigate the problem it is recommended that the amount of direct contact between the cable and the polystyrene be reduced as much as possible. Effective ways of achieving this include positioning the cable with an air gap between the sheath and the polystyrene, or installing the cable within a rigid PVC or PE conduit.

continued

General Technical Information

Installation Information (continued)

UV Resistance

Many polymers, due to their molecular structure, are prone to attack by UV radiation, and because of this will degrade upon continued exposure to sunlight, eventually cracking and splitting. The polyolefin family of materials, such as PE (including XLPE or X-90) and PP is particularly susceptible to deterioration in this manner. PVC is also at risk but noticeably less so, partly because of its structure but also due to the mitigating effects of the fillers, plasticisers and stabilisers that are compounded with it.

A simple, effective and cheap material that can be added to plastic compounds to absorb UV radiation is carbon black. However, while this approach is appropriate for sheathing materials, it is not necessarily so for insulating materials as the carbon masks the core colour.

Olex New Zealand Limited recommends that the insulation of its cables be protected (covered) from solar radiation at all times, except in those instances where the material has been deliberately modified to guard against the effects of UV, eg, Aerial Bundled Cables (ABC). This covering may simply be the sheath of the cable.

Lugs and Links

Stranded compacted conductors, either round or sector shaped, must have lugs and links fitted that are manufactured for the same nominal cross-sectional area as the conductor. For example, a 150 mm² conductor must have a 150 mm² lug or link fitted, and the correct dies, as stated by the manufacturer, used to compress it.

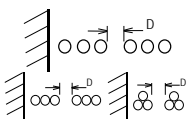
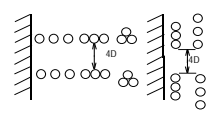
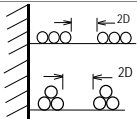
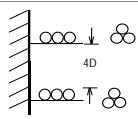
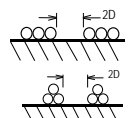
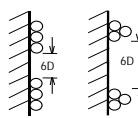
Although the lug or link will appear to be loose on the conductor, this is simply because the initial compression of the joint has already taken place during the manufacture of the conductor; the final compression of the joint will be correct.

If, for example, a 120 mm² lug or link was fitted to a 150 mm² conductor, the joint would be over-compressed and likely to fail in service. In addition, the smaller lug in itself would be unable to carry the same maximum current as the larger conductor, particularly with respect to fault currents.

Olex New Zealand Limited manufactures conductors to be compatible with lugs and links normally available in New Zealand.

General Technical Information

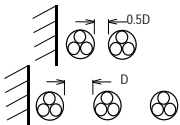
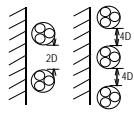
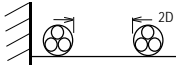
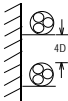
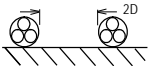

Minimum Spacings in Air to Avoid Derating

Table 1A - Minimum Spacings in Air to Avoid Derating		
Method of Installation	Horizontal Spacings	Vertical Spacings
Single Core Cables		
Cables spaced away from surfaces and supported on ladders, racks, etc. or suspended from a catenary wire, such that impedance to air flow around the cables is not greater than 10%.		
Cables spaced away from surfaces and supported on perforated or unperforated trays such that air flow around the cables is partially restricted.		
Cables fixed directly to a wall, floor, ceiling or similar surface such that air circulation is restricted.		

continued

General Technical Information

Minimum Spacings in Air to Avoid Derating (continued)


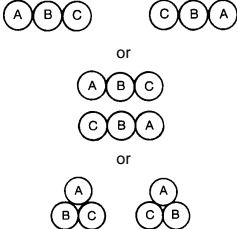
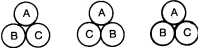
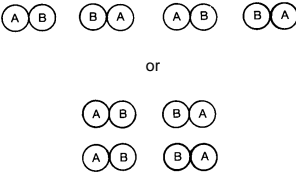
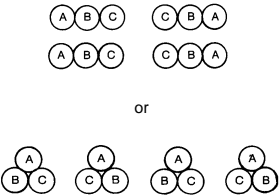
Table 1B - Minimum Spacings in Air to Avoid Derating		
Method of Installation	Horizontal Spacings	Vertical Spacings
Multicore Cables		
Cables spaced away from surfaces and supported on ladders, racks, etc. or suspended from a catenary wire, such that impedance to air flow around the cables is not greater than 10%.		
Cables spaced away from surfaces and supported on perforated or unperforated trays such that air flow around the cables is partially restricted.		
Cables fixed directly to a wall, floor, ceiling or similar surface such that air circulation is restricted.		

General Technical Information

Single Core Cables in Parallel

The following are the recommended arrangements of single core cables in parallel. Non-symmetrical arrangements result in different impedances and hence unequal current sharing between parallel legs of the same phase. This should be avoided as it could lead to overheating of some cables.

Neutral conductors of Three phase circuits should be located so as not to disturb the symmetry of the groups.

Table 2 – Arrangements for Equal Current Sharing of Single Core Cables in Parallel	
Single Phase	Three Phase
Two Conductors per Phase	
	
Three Conductors per Phase	
Not Recommended	
Four Conductors per Phase	
	

General Technical Information

Bending Radii

The safe bending radius for an electric cable is limited by the flexibility of its insulation and sheathing material. When a cable is being installed it may be pulled around several curves in different directions and subjected to dynamic stresses which could cause damage. Consequently the bending radius around which a cable may be pulled is greater than that into which it can be set in its final position.

The following recommended minimum bending radii are expressed as a function of the cable diameter and refer to the inside of the curve. In all cases, bending radii should be as large as practicable.

Cable Type (choose the highest value of all relevant construction features)		Factor (F)	
		During Installation	Installed
All Cable Types	Nylon Covered	30	20
	HDPE Sheath	25	15
	Helical Copper or Brass Taped	18	12
	Steel Wire Armoured	18	12
	Solid Aluminium Conductors	12	8
	Compacted or Shaped Stranded Conductors	12	8
	MV XLPE Cables	Single Core and Multicore Cables	18
LV (0.6/1kV) Cables	PVC/XLPE Insulation	9	6

$$R = F \times D$$

where: R = Minimum Internal Bending Radius (mm)
 D = Cable Diameter (mm)
 F = Factor from above table

General Technical Information

Duct Sizes

Ducts are another important consideration affecting the pulling operation. Selection of the appropriate duct should be based on internal duct diameter to suit a cable size and wall thickness to prevent deformation during duct installation. The internal finish of the installed ducting should be smooth to prevent cable sheath damage during installation. During cable installation the use of graphite or other commercially available pulling lubricants can also prevent sheath damage and reduce pulling tensions. The following duct sizes are recommended:

Heavy Duty Rigid PVC Conduit Nominal Size (mm)	Single Cable (mm)	Three Cables (mm)	Four Cables (mm)
50	Up to 30	-	-
63	30 to 38	-	-
65	38 to 47	Up to 24	Up to 21
80	47 to 52	24 to 27	21 to 23
100	52 to 69	27 to 35	23 to 31
150	69 to 99	35 to 51	31 to 44
200	99 to 142	51 to 73	44 to 63
250	Above 142	Above 73	Above 63

General Technical Information

Pulling Tension

Where a cable is to be pulled in using a winch and steel wire rope, the rope may be secured to the cable by any of the following:

- A cable stocking of steel wire braid
- A pulling eye attached to the cable conductor
- A pulling eye over the complete cable end
- A pulling eye formed from the armour wires

The maximum tension which may be used is limited by the tensile strength of the conductors or armour wires, or by the gripping capability of the cable stocking, depending on the method used.

Material	Maximum Safe Tensile Stress (S) kN/mm ²
Stranded Copper Conductor	0.07
Stranded Aluminium Conductor	0.05
Solid Aluminium Conductor	0.03
Galvanised Mild Steel Armour	0.13
Aluminium Wire Armour	0.04

Method of Calculation

Using values of S from table above:

a) Limited by Conductor

$$T_c = N * A_c * S$$

where: T_c = Maximum Pulling Tension (kN)
 N = No. of Conductors
 A_c = Cross-sectional Area of one Conductor (mm²)
 S = Maximum Safe Tensile Stress for Conductor (kN/mm²)

continued

General Technical Information

Pulling Tension (continued)

b) Limited by Armour

$$T_a = 2.47 * d_a * (D_a + d_a) * S$$

where: T_a = Maximum Pulling Tension (kN)
 S = Maximum Safe Tensile Stress for Armour (kN/mm²)
 d_a = Nominal Diameter of Armour Wire (mm)
 D_a = Nominal Diameter under Armour (mm).

c) Limited by Stocking

$$T_s = 0.120 * D$$

where: T_s = Maximum Pulling Tension (kN)
 D = Overall Diameter of the Cable (mm)

Overall Limiting Tension

Cable OD (mm)	Maximum Pulling Tension (kN)
0 to 15	5
15 to 25	10
25 to 50	15
50 and over	20

The safe pulling tension is the smallest of the calculated values.

General Technical Information

Copper Conductor Dimensions

Nominal Cross Sec. Area mm ²	Circular Nominal Diameter mm	Compacted Minimum Diameter mm	Three Core, 120° Sectored		Four Core, 90° Sectored	
			Nominal Depth mm	Max Width mm	Nominal Depth mm	Max Width mm
16	4.95	4.85	-	-	-	-
25	6.30	5.99	5.22	8.48	5.87	7.68
35	7.55	7.00	5.97	9.85	6.91	9.20
50	8.75	8.30	7.02	11.51	7.97	10.50
70	10.50	9.69	8.50	14.40	9.37	13.09
95	12.40	11.40	10.02	17.00	10.97	15.55
120	14.10	12.81	11.22	18.90	12.25	17.10
150	15.55	14.22	12.17	20.90	13.62	18.92
185	17.40	15.97	13.65	23.10	15.37	21.30
240	20.00	18.25	15.57	26.75	17.48	24.50
300	22.35	20.47	17.67	29.85	19.57	27.60
400	25.25	23.40	19.84	33.96	22.29	31.21
500	28.30	26.76	-	-	-	-
630	-	30.44	-	-	-	-

Note

- 1 Lugs and links **must always** be selected to match the nominal cross sectional area of the conductor. A lug or link for a 185 mm² circular conductor may fit on a 240 mm² compacted conductor but may not be rated to carry the load current associated with the larger conductor size; nor will it compress correctly if it is of the compression type.

General Technical Information

Aluminium Conductor Dimensions

Nominal Cross Sec. Area mm ²	Circular Nominal Diameter mm	Compacted Minimum Diameter mm	Three Core, 120° Sectored		Four Core, 90° Sectored	
			Nominal Depth mm	Max Width mm	Nominal Depth mm	Max Width mm
16	5.15	-	-	-	-	-
25	6.30	5.99	5.22	8.48	5.87	7.68
35	7.60	6.95	5.97	9.85	6.91	9.20
50	8.80	8.20	7.02	11.51	7.97	10.50
70	10.45	9.69	8.50	14.40	9.37	13.09
95	12.40	11.40	10.02	17.00	10.97	15.55
120	14.15	12.81	11.22	18.90	12.25	17.10
150	15.60	14.22	12.17	20.90	13.62	18.92
185	17.35	15.97	13.65	23.10	15.17	21.30
240	20.25	18.32	15.57	26.75	17.48	24.50
300	22.50	20.33	17.67	29.85	19.57	27.60
400	25.40	23.06	19.84	33.96	22.29	31.21
500	28.55	26.10	-	-	-	-
630	-	29.70	-	-	-	-
800	-	34.30	-	-	-	-

Note

- Lugs and links **must always** be selected to match the nominal cross sectional area of the conductor. A lug or link for a 185 mm² circular conductor may fit on a 240 mm² compacted conductor but may not be rated to carry the load current associated with the larger conductor size; nor will it compress correctly if it is of the compression type.

Cable Selection

Four Main Factors

In accordance with AS/NZS 3008.1.2 and AS/NZS 3000, the **four** main factors which affect the minimum size of cable required for a particular installation are:

1. The cable **current-carrying capacity**, which is influenced by the cable materials and construction, the conditions of the cable environment and the method of installation due to their effects on the dissipation of heat from the conductors.
2. The **voltage drop** in the cable circuit, which is a function of load current, load power factor, and length of the cable run.
3. The temperature rise under **short-circuit conditions**, which is a function of both the magnitude and duration of the short-circuit current and is limited by the cable materials.
4. The maximum fault **loop impedance** which will still allow the protective device to trip within the specified time.

Cable Selection

Procedures

To select the cable size required based on the above considerations, follow the steps listed:

Current-Carrying Capacity

- 1 Determine the minimum current for which the cable is to be rated, taking account of the maximum demand of the circuit and the type and rating of the overcurrent protection device.
- 2 Ascertain how the cables are to be installed, and the conditions in the cable environment. From the tables of rating factors, select any rating factor(s) which are applicable.
- 3 Divide the rating from step 1 by the appropriate factor(s).
- 4 From the current rating tables, select a cable which, for the appropriate method of installation, has a tabulated rating not less than the value obtained from 3.

Voltage Drop

- 1 Determine the Load Current I (A) to be carried by the cable, and the Route Length L (m) of the circuit.
- 2 Establish the maximum voltage drop V_d (V) permitted in the circuit (taking account of any other voltage drops in series).
- 3 Evaluate the equation $V_c = \frac{1000 \cdot V_d}{I \cdot L}$ (mV/A.m). This value is the maximum mV/A.m figure which will give the required voltage drop.
- 4 From the voltage drop tables, select a cable for the appropriate method of installation which has a tabulated mV/A.m figure not greater than this value.

continued

Cable Selection

Procedures (continued)

Short Circuit Temperature

- 1 Determine the Maximum Duration t (s) and Magnitude I_{sc} (A) of the prospective Short Circuit Current.
- 2 Evaluate the equation $I_1 = I_{sc} * \sqrt{t}$ (A). This is the required short circuit rating converted to a one second basis.
- 3 From the conductor short-circuit ratings tables, select a cable with a rating not less than the value obtained from 2.

Fault Loop Impedance

- 1 Determine the maximum fault loop impedance which will still allow the protective device to trip within the specified time.
- 2 From the above calculate the maximum length of cable run to comply with the maximum fault loop impedance. Refer to AS/NZS 3000:2007, Clause 1.5.5.3 and Appendix B.

General

For any circuit, the cable size selected should not be less than the largest of the sizes calculated to meet the above limitations (this is the smallest size which will meet all of the requirements).

In practice, the current-carrying capacity will be found to prevail in short-run/high-current circuits while voltage drop considerations will usually prevail in long-run/low-current circuits. It is unusual for short-circuit temperature requirements to determine the conductor size required for 0.6/1 kV cable circuits.

Cable Selection

Current Ratings

The current carrying capacity of a cable is determined by the following factors:

1. Current flowing in a conductor generates heat and causes the conductor temperature to rise above the ambient temperature.
2. Different methods of installation or the presence of external heat sources such as adjacent cables vary the rate of heat dissipation.
3. The insulation material determines the maximum conductor temperature which can be sustained continuously over the expected life of the cable.

The continuous current ratings for Low Voltage (LV) 0.6/1 kV cables given in this handbook have been reproduced from AS/NZS 3008.1.2 with the permission from Standards New Zealand under Copyright Licence 000926. In all cases, the ratings given are the single circuit ratings, corresponding to continuous loading at the maximum conductor temperature appropriate to the insulation material.

Environmental Conditions

The current ratings are based on the following operational conditions:

Ambient Air Temperature	30°C
Soil Temperature	15°C
Soil Thermal Resistivity	1.2 K.m/W
Depth of Burial	0.5 m

Where conditions vary from those on which the ratings are based, appropriate rating factors from Tables 3 to 6 (page 120), need to be applied.

Methods of Installation

Earthing conductors and lightly loaded neutral conductors of three phase circuits are ignored for current rating purposes and are generally not shown in the graphical representations of the cable and installation methods. Thus, where two single core cables or a two core cable is shown the current rating applies to single phase operation; where three single core cables or a three core cable is shown the current rating applies to two or three phase operation.

continued

Cable Selection

Current Ratings (continued)

Groups of Circuits

For groups of circuits unenclosed in air, the spacings and arrangements which need to be maintained to prevent derating are given on Tables 1A & 1B (page 103 & 104). Where underground circuits are spaced by more than 2m from adjacent circuits, no derating applies. Also, if adjacent circuits are operated at less than 35% of their current carrying capacity they may be excluded from considerations as their contribution to mutual heating will be small.

Where a number of circuits are installed in close proximity in such a way that they are not thermally independent, the appropriate rating factors from Tables 7 and 8 (page 121) need to be applied.

Cables in Parallel

For cables operated in parallel, each parallel leg is regarded as a separated circuit for current rating purposes and the appropriate rating factors for grouping are applicable. Refer also to Table 2 (page 105) for the arrangements of single core cables so as to ensure equal current sharing between parallel legs of the same phase.

Solar Radiation

For cables exposed to direct sunlight, the effect of solar radiation is to increase the surface temperature of the cable and hence limit the temperature rise due to the load in the conductors. Where possible, cables should be shielded from the direct rays of the sun without restricting ventilation. Otherwise, the effect of solar radiation should be taken into account, either by calculation in accordance with IEC 60287, or as an approximation by adding 20°C to the ambient air temperature and applying the appropriate rating factor.

Cable Selection

Simple Cable Selection Chart

The tables below and on the next page has been reproduced from AS/NZS 3008.1.2 with the permission from Standards New Zealand under Copyright Licence 000926.

Assume the following conditions:

- Single core, XLPE insulated cables, installed in flat configuration, directly buried in ground;
- 1-phase 230 V supply, or 3-phase 400 V supply, as applicable;
- Maximum volt drop limited to 2.5% of supply voltage.

For longer runs, different cable configurations or other more specific conditions, please contact our nearest Nexans NZ representative.

30 amps per phase

Cable Size mm ²	Maximum Run length (meters)			
	Aluminium		Copper	
	1-Phase	3-Phase	1-Phase	3-Phase
16	<i>n/a</i>	<i>n/a</i>	66	131
25	<i>n/a</i>	<i>n/a</i>	103	206
35	86	172	143	282
50	117	231	191	380
70	168	333	272	535
95	230	455	366	714
120	288	566	449	866
150	347	679	530	1010
185	425	825	622	1170
240	533	1019	738	1361
300	630	1186	830	1502
400	741	1372	916	1626
500	848	1543	986	1727
630	948	1684	1051	1832

continued

Cable Selection

Simple Cable Selection Chart (continued)

63 amps per phase

Cable Size mm ²	Maximum Run length (meters)			
	Aluminium		Copper	
	1-Phase	3-Phase	1-Phase	3-Phase
16	<i>n/a</i>	<i>n/a</i>	31	62
25	<i>n/a</i>	<i>n/a</i>	49	98
35	41	82	68	135
50	56	110	91	181
70	80	159	130	255
95	110	217	174	340
120	137	269	214	412
150	165	323	252	481
185	202	393	296	557
240	254	485	351	648
300	300	565	395	715
400	353	653	436	774
500	404	735	470	822
630	451	802	500	872

100 amps per phase

Cable Size mm ²	Maximum Run length (meters)			
	Aluminium		Copper	
	1-Phase	3-Phase	1-Phase	3-Phase
25	<i>n/a</i>	<i>n/a</i>	31	62
35	26	52	43	85
50	35	69	57	114
70	50	100	82	161
95	69	136	110	214
120	86	170	135	260
150	104	204	159	303
185	127	248	186	351
240	160	306	221	408
300	189	356	249	450
400	222	412	275	488
500	254	463	296	518
630	284	505	315	549

continued

Cable Selection

Simple Cable Selection Chart (continued)

150 amps per phase

Cable Size mm ²	Maximum Run length (meters)			
	Aluminium		Copper	
	1-Phase	3-Phase	1-Phase	3-Phase
35	17	34	29	56
50	23	46	38	76
70	34	67	54	107
95	46	91	73	143
120	58	113	90	173
150	69	136	106	202
185	85	165	124	234
240	107	204	148	272
300	126	237	166	300
400	148	274	183	325
500	170	309	197	345
630	190	337	210	366

200 amps per phase

Cable Size mm ²	Maximum Run length (meters)			
	Aluminium		Copper	
	1-Phase	3-Phase	1-Phase	3-Phase
70	25	50	41	80
95	35	68	55	107
120	43	85	67	130
150	52	102	79	152
185	64	124	93	175
240	80	153	111	204
300	94	178	124	225
400	111	206	137	244
500	127	231	148	259
630	142	253	158	275

Cable Selection

Low Voltage (0.6/1 kV) Rating Factors

Table 3 - Ambient Air Temperature Variation

Insulation Type	Air Temperature (°C)								
	15	20	25	30	35	40	45	50	55
PVC	1.18	1.12	1.06	1.00	0.94	0.88	0.80	0.72	0.63
XLPE	1.15	1.09	1.05	1.00	0.95	0.91	0.85	0.80	0.74











Table 4 - Soil Temperature Variation

Insulation Type	Soil Temperature (°C)						
	10	15	20	25	30	35	40
PVC	1.04	1.00	0.95	0.91	0.86	0.81	0.75
XLPE	1.04	1.00	0.96	0.93	0.91	0.87	0.83

Table 5 - Depth of Burial Variation

Depth of Burial	Laid Direct			In Underground Ducts	
	Up to 50mm ²	Above 50mm ² Up to 300mm ²	Above 300mm ²	Single Core	Multicore
0.5	1.00	1.00	1.00	1.00	1.00
0.6	0.99	0.98	0.97	0.98	0.99
0.8	0.97	0.96	0.94	0.95	0.97
1.0	0.95	0.94	0.92	0.93	0.96
1.25	0.94	0.92	0.90	0.90	0.95
1.5	0.93	0.91	0.89	0.89	0.94
1.75	0.92	0.89	0.87	0.88	0.94
2.0	0.91	0.88	0.86	0.87	0.93
2.5	0.90	0.87	0.85	0.86	0.93
3.0 (or deeper)	0.89	0.86	0.83	0.85	0.92

Table 6 - Soil Thermal Resistivity Variation

Soil Thermal Resistivity (K.m/W)					
					
0.8	1.09	1.16	1.03	1.06	1.08
0.9	1.07	1.11	1.02	1.04	1.06
1.0	1.04	1.07	1.02	1.03	1.04
1.2	1.00	1.00	1.00	1.00	1.00
1.5	0.92	0.90	0.95	0.94	0.92
2.0	0.81	0.80	0.88	0.86	0.83
2.5	0.74	0.72	0.83	0.80	0.77
3.0	0.69	0.66	0.78	0.75	0.71

continued

Cable Selection

Low Voltage (0.6/1 kV) Rating Factors (continued)

Table 7 - Groups of Circuits Laid Direct in Ground

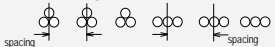



No. of Circuits	Single Core Cables						Multicore Cables				
											
	Touching		Spacing (m)				Touching	Spacing (m)			
Trefoil	Flat	0.15	0.30	0.45	0.60	0.15		0.30	0.45	0.60	
2	0.78	0.81	0.83	0.88	0.91	0.93	0.81	0.87	0.91	0.93	0.95
3	0.66	0.70	0.73	0.79	0.84	0.87	0.70	0.78	0.84	0.88	0.90
4	0.61	0.64	0.68	0.74	0.81	0.85	0.63	0.74	0.81	0.86	0.89
5	0.56	0.60	0.64	0.73	0.79	0.83	0.59	0.70	0.78	0.84	0.87
6	0.53	0.57	0.61	0.71	0.78	0.82	0.55	0.68	0.77	0.83	0.87
7	0.50	0.54	0.59	0.69	0.76	0.82	0.52	0.66	0.75	0.82	0.86
8	0.49	0.53	0.57	0.68	0.76	0.81	0.50	0.64	0.75	0.81	0.86
9	0.47	0.51	0.56	0.67	0.75	0.81	0.48	0.63	0.74	0.81	0.85
10	0.46	0.50	0.55	0.67	0.75	0.80	0.47	0.62	0.73	0.80	0.85
11	0.44	0.49	0.54	0.66	0.74	0.80	0.45	0.61	0.73	0.80	0.85
12	0.43	0.48	0.53	0.66	0.74	0.80	0.44	0.60	0.72	0.80	0.84

Table 8 - Groups of Circuits In Underground Ducts

No. of Circuits	Single Core Cables in Multiway Ducts or Multicore Cables in Single-way Ducts					Single Core Cables in Single-way Ducts		
								
	Touching	Spacing (m)			Touching	Spacing (m)		
0.30		0.45	0.60	0.45		0.60		
2	0.90	0.93	0.95	0.96	0.87	0.91	0.93	
3	0.83	0.88	0.91	0.93	0.78	0.84	0.87	
4	0.79	0.85	0.89	0.92	0.74	0.81	0.85	
5	0.75	0.83	0.88	0.91	0.70	0.79	0.83	
6	0.73	0.82	0.87	0.90	0.69	0.78	0.82	
7	0.71	0.81	0.86	0.89	0.67	0.76	0.82	
8	0.70	0.80	0.85	0.89	0.66	0.76	0.81	
9	0.68	0.79	0.85	0.89	0.65	0.75	0.81	
10	0.67	0.79	0.85	0.89	0.64	0.75	0.80	
11	0.66	0.78	0.84	0.88	0.63	0.74	0.80	
12	0.66	0.78	0.84	0.88	0.63	0.74	0.80	

Current Ratings

Single Conductor PVC (Single Phase)











Maximum conductor temperature 75°C

PVC insulation

Unarmoured

Sheathed or unsheathed

For cables up to and including 0.6/1 kV @ 50 Hz AC.

Conductor Size mm ²	Unenclosed				Enclosed		Buried Direct		Underground Ducts		Single Phase Voltage Drop mV/A.m	
	Spaced from Surface		Touching		Conduit in Air							
												
Single Phase												
	Cu	Al	Cu	Al	Cu	Al	Cu	Al	Cu	Al	Cu	Al
1.0	18	-	15	-	15	-	24	-	20	-	51.6	-
1.5	24	-	18	-	21	-	31	-	25	-	33.0	-
2.5	33	-	26	-	27	-	43	-	35	-	18.0	-
4	44	-	35	-	36	-	56	-	45	-	11.2	-
6	56	-	46	-	47	-	71	-	57	-	7.50	-
10	76	-	62	-	62	-	94	-	76	-	4.46	-
16	101	79	82	64	80	62	134	105	98	76	2.81	4.68
25	136	105	111	86	107	83	174	135	128	99	1.78	2.95
35	165	129	136	105	128	99	209	162	153	119	1.29	2.14
50	202	156	166	129	157	122	248	191	185	143	0.963	1.58
70	254	197	210	163	194	150	305	237	227	176	0.680	1.10
95	315	244	262	203	242	187	365	283	277	215	0.507	0.804
120	366	284	304	237	276	214	416	323	316	245	0.415	0.644
150	418	325	351	272	321	250	466	362	362	281	0.352	0.535
185	483	377	408	318	365	284	528	411	410	320	0.301	0.439
240	576	449	488	381	434	340	612	477	482	376	0.255	0.352
300	663	520	564	442	-	-	691	540	546	427	0.229	0.300
400	771	610	658	520	-	-	784	620	633	499	0.209	0.256
500	889	711	762	610	-	-	886	708	714	572	0.194	0.226
630	1023	832	878	715	-	-	994	811	825	672	0.181	0.202

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For typical New Zealand installation conditions:

Ambient Air Temperature: 30°C
Soil Thermal Resistivity: 1.2 K.m/W

Soil Temperature: 15°C
Depth of Burial: 0.5 m

Example Product Range

- Single core TPS
- Vintol
- Conduit Wires (enclosed only)

Current Ratings

Single Conductor XLPE (Single Phase)











Maximum conductor temperature 90°C

XLPE insulation

Unarmoured

Sheathed or unsheathed

For cables up to and including 0.6/1 kV @ 50 Hz AC.

Conductor Size mm ²	Unenclosed				Enclosed		Buried Direct		Underground Ducts		Single Phase Voltage Drop mV/A.m	
	Spaced from Surface		Touching		Conduit in Air							
												
Single Phase												
	Cu	Al	Cu	Al	Cu	Al	Cu	Al	Cu	Al	Cu	Al
2.5	40	-	31	-	33	-	39	-	39	-	18.9	-
4	52	-	41	-	42	-	49	-	49	-	11.8	-
6	66	-	52	-	52	-	62	-	62	-	7.87	-
10	90	-	72	-	72	-	83	-	83	-	4.68	-
16	119	92	95	74	92	72	149	114	107	83	2.95	4.91
25	160	123	129	100	124	96	192	149	140	109	1.87	3.08
35	195	151	158	122	149	116	230	179	168	131	1.35	2.24
50	238	184	194	150	183	142	273	212	202	157	1.01	1.65
70	300	233	246	191	224	175	335	260	249	194	0.710	1.15
95	372	288	306	238	281	218	401	311	305	236	0.528	0.840
120	432	336	358	278	321	249	457	355	348	270	0.431	0.672
150	496	385	413	320	362	281	514	398	391	303	0.365	0.557
185	574	447	480	374	426	331	581	453	453	352	0.311	0.455
240	684	534	574	449	507	396	674	526	532	415	0.262	0.363
300	790	618	666	520	-	-	761	595	601	471	0.233	0.307
400	920	726	779	615	-	-	865	683	699	552	0.211	0.261
500	1063	849	903	722	-	-	977	780	791	631	0.196	0.228
630	1224	994	1045	849	-	-	1098	891	916	744	0.184	0.204

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For typical New Zealand installation conditions:

Ambient Air Temperature: 30°C
Soil Thermal Resistivity: 1.2 K.m/W

Soil Temperature: 15°C
Depth of Burial: 0.5 m

Example Product Range

- Cantol

Current Ratings











Two Conductor PVC (Single Phase)

Maximum conductor temperature 75°C

PVC insulation

Armoured or unarmoured

For cables up to and including 0.6/1 kV @ 50 Hz AC.

Conductor Size mm ²	Unenclosed				Enclosed		Buried Direct		Underground Ducts		Single Phase Voltage Drop mV/A.m	
	Spaced from Surface		Touching		Conduit in Air							
												
Single Phase												
	Cu	Al	Cu	Al	Cu	Al	Cu	Al	Cu	Al	Cu	Al
1.0	17	-	16	-	15	-	19	-	19	-	51.6	-
1.5	22	-	21	-	18	-	23	-	23	-	33.0	-
2.5	31	-	30	-	26	-	33	-	33	-	18.0	-
4	42	-	39	-	34	-	43	-	43	-	11.2	-
6	52	-	50	-	44	-	55	-	55	-	7.50	-
10	73	-	68	-	59	-	73	-	73	-	4.46	-
16	97	75	91	71	78	59	125	97	95	73	2.81	4.67
25	129	100	122	95	103	80	162	125	123	96	1.78	2.93
35	158	123	149	115	128	99	196	152	150	117	1.28	2.13
50	194	150	181	141	152	117	232	179	178	139	0.958	1.57
70	245	190	229	178	194	150	285	221	222	173	0.673	1.09
95	302	234	283	219	233	180	342	265	267	208	0.498	0.798
120	350	272	328	255	275	213	391	304	310	242	0.405	0.638
150	400	310	374	291	309	239	438	340	349	271	0.342	0.528
185	459	358	430	335	357	278	494	385	399	311	0.290	0.431
240	544	425	508	398	415	325	572	447	463	362	0.243	0.343
300	624	489	583	457	483	380	645	506	531	417	0.215	0.290
400	719	570	671	532	549	437	729	579	603	477	0.194	0.245

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For typical New Zealand installation conditions:

Ambient Air Temperature: 30°C
Soil Thermal Resistivity: 1.2 K.m/W

Soil Temperature: 15°C
Depth of Burial: 0.5 m

Example Product Range

- TPS
- Remolex
- PVC Armoured Mains
- PVC Neutral Screen

Current Ratings











Two Conductor XLPE (Single Phase)

Maximum conductor temperature 90°C

XLPE insulation

Armoured or unarmoured

For cables up to and including 0.6/1 kV @ 50 Hz AC.

Conductor Size mm ²	Unenclosed				Enclosed		Buried Direct		Underground Ducts		Single Phase Voltage Drop mV/A.m	
	Spaced from Surface		Touching		Conduit in Air							
												
Single Phase												
	Cu	Al	Cu	Al	Cu	Al	Cu	Al	Cu	Al	Cu	Al
2.5	37	-	34	-	31	-	36	-	36	-	18.9	-
4	50	-	46	-	41	-	48	-	48	-	11.8	-
6	63	-	58	-	51	-	60	-	60	-	7.85	-
10	86	-	80	-	69	-	80	-	80	-	4.68	-
16	114	89	107	83	90	69	141	109	105	80	2.95	4.90
25	154	120	144	112	121	94	182	141	137	106	1.86	3.08
35	190	147	178	138	145	112	219	170	165	127	1.35	2.23
50	232	179	217	168	178	139	261	202	198	154	1.00	1.65
70	295	229	275	213	220	171	321	249	244	189	0.703	1.15
95	364	283	340	263	275	213	385	299	299	231	0.520	0.835
120	424	329	395	307	314	244	439	341	340	264	0.423	0.666
150	485	376	452	351	365	283	492	382	391	303	0.355	0.550
185	560	436	520	406	415	322	556	433	442	345	0.299	0.448
240	664	519	618	483	493	385	645	504	519	406	0.249	0.355
300	763	598	710	556	575	451	728	570	597	468	0.219	0.298
400	884	700	820	649	656	519	825	653	677	536	0.198	0.249

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For typical New Zealand installation conditions:

Ambient Air Temperature: 30°C
Soil Thermal Resistivity: 1.2 K.m/W

Soil Temperature: 15°C
Depth of Burial: 0.5 m

Example Product Range

- Cempex
- XLPE Armoured Mains
- XLPE Neutral Screen
- Alsecure® Envirolex® TPS
- Alsecure® Premium INFIT Ceramifiable® Multicore 90°C

Current Ratings

Single Conductor PVC (Three Phase)

















Maximum conductor temperature 75°C

PVC insulation

Unarmoured

Sheathed or unsheathed

For cables up to and including 0.6/1 kV @ 50 Hz AC.

Conductor Size mm ²	Unenclosed				Enclosed		Buried Direct		Underground Ducts		Three Phase Voltage Drop mV/A.m			
	Spaced from Surface		Touching		Conduit in Air						Trefoil		Flat	
														
Three Phase														
	Cu	Al	Cu	Al	Cu	Al	Cu	Al	Cu	Al	Cu	Al	Cu	Al
1.0	16	-	15	-	14	-	18	-	18	-	44.7	-	44.7	-
1.5	19	-	18	-	17	-	22	-	22	-	28.6	-	28.6	-
2.5	29	-	26	-	24	-	30	-	30	-	15.6	-	15.6	-
4	38	-	35	-	32	-	40	-	40	-	9.71	-	9.71	-
6	48	-	46	-	40	-	50	-	50	-	6.49	-	6.49	-
10	66	-	62	-	54	-	65	-	65	-	3.86	-	3.86	-
16	88	67	82	64	71	55	114	89	86	66	2.43	4.05	2.43	4.05
25	117	91	111	86	92	72	147	114	110	86	1.54	2.55	1.55	2.55
35	145	112	136	105	114	89	176	136	134	103	1.12	1.85	1.12	1.85
50	178	138	166	129	136	105	209	162	158	123	0.834	1.37	0.840	1.37
70	225	174	210	163	173	135	256	199	198	154	0.589	0.952	0.597	0.956
95	280	218	262	203	209	162	307	238	239	185	0.439	0.696	0.449	0.702
120	327	254	304	237	247	193	349	272	277	216	0.359	0.558	0.371	0.565
150	376	292	351	272	278	217	392	304	311	242	0.305	0.463	0.319	0.472
185	437	341	407	317	324	253	442	344	358	278	0.261	0.380	0.277	0.391
240	521	408	486	381	377	307	512	400	415	325	0.221	0.305	0.240	0.319
300	603	473	561	441	442	348	576	453	477	375	0.198	0.260	0.219	0.276
400	701	556	653	519	504	400	652	518	541	430	0.181	0.222	0.202	0.240
500	809	651	754	606	596	480	735	591	628	505	0.168	0.196	0.191	0.216
630	931	762	866	709	670	548	823	673	703	575	0.157	0.175	0.181	0.197

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For typical New Zealand installation conditions:

Ambient Air Temperature: 30°C
Soil Thermal Resistivity: 1.2 K.m/W

Soil Temperature: 15°C
Depth of Burial: 0.5 m

Example Product Range

- Single core TPS
- Vintol

Current Ratings

Single Conductor XLPE (Three Phase)







Maximum conductor temperature 90°C

XLPE insulation

Unarmoured

Sheathed or unsheathed

For cables up to and including 0.6/1 kV @ 50 Hz AC.

Conductor Size mm ²	Unenclosed		Enclosed		Buried Direct	Underground Ducts	Three Phase Voltage Drop mV/A.m							
	Spaced from Surface	Touching	Conduit in Air				Trefoil		Flat					
														
Three Phase														
	Cu	Al	Cu	Al	Cu	Al	Cu	Al	Cu	Al	Cu	Al	Cu	Al
2.5	33	-	31	-	28	-	33	-	33	-	16.4	-	16.4	-
4	44	-	41	-	36	-	43	-	43	-	10.2	-	10.2	-
6	55	-	52	-	46	-	54	-	54	-	6.81	-	6.81	-
10	76	-	72	-	62	-	72	-	72	-	4.05	-	4.05	-
16	101	78	95	74	79	62	125	97	92	71	2.55	4.25	2.55	4.25
25	138	107	129	100	107	83	162	125	121	93	1.62	2.67	1.62	2.67
35	169	131	158	122	132	102	193	150	147	113	1.17	1.94	1.18	1.94
50	207	161	194	150	157	122	229	178	174	135	0.872	1.43	0.878	1.44
70	264	205	246	191	201	156	280	217	217	169	0.615	0.997	0.623	1.00
95	328	255	306	238	242	188	335	260	261	203	0.457	0.727	0.467	0.733
120	384	298	358	278	287	223	381	296	304	236	0.373	0.582	0.385	0.589
150	443	344	413	320	325	252	428	332	342	266	0.316	0.482	0.330	0.491
185	515	402	479	373	369	287	484	377	388	303	0.269	0.394	0.285	0.404
240	616	482	573	448	439	343	560	438	456	356	0.227	0.314	0.245	0.327
300	713	559	662	519	516	405	630	495	525	412	0.202	0.266	0.222	0.281
400	832	659	772	613	587	466	715	567	596	473	0.183	0.226	0.205	0.243
500	961	773	893	717	696	560	805	646	693	556	0.170	0.197	0.193	0.216
630	1111	906	1032	842	785	641	902	736	778	635	0.159	0.177	0.182	0.198

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For typical New Zealand installation conditions:

Ambient Air Temperature: 30°C
Soil Thermal Resistivity: 1.2 K.m/W

Soil Temperature: 15°C
Depth of Burial: 0.5 m

Example Product Range







- Cantol

Current Ratings

Alsecure® Standard Single Core (Single Phase)

Maximum conductor temperature 110°C

Flexible copper conductor
Used for fixed installations

Conductor Size mm ²	Unenclosed			Enclosed	Buried Direct	Underground Ducts		Single Phase Voltage Drop mV/A.m
	Spaced	Spaced from Surface	Touching	Conduit in Air				
								
Single Phase								
10	109	105	86	82	85	91	103	5.17
16	144	138	112	109	163	119	135	3.28
25	190	182	149	142	210	152	173	2.13
35	236	225	184	179	252	187	207	1.51
50	299	281	233	221	299	228	250	1.06
70	376	352	292	281	367	282	305	0.760
95	452	423	352	334	441	331	373	0.588
120	535	499	417	389	501	381	424	0.471
150	617	574	482	456	563	439	475	0.393
185	706	654	552	515	637	492	548	0.338
240	850	783	664	624	740	581	636	0.280
300	980	900	766	-	836	669	736	0.246
400	1182	1076	920	-	952	778	837	0.216
500	1380	1245	1069	-	1079	906	976	0.199
630	1636	1454	1250	-	1217	1036	1108	0.184

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For typical New Zealand installation conditions:

Ambient Air Temperature: 30°C
Soil Thermal Resistivity: 1.2 K.m/W

Soil Temperature: 15°C
Depth of Burial: 0.5 m

Example Product Range





- Alsecure® Standard Single Core

Current Ratings

Alsecure[®] Standard Single Core (Three Phase)

Maximum conductor temperature 110°C

Flexible copper conductor
Used for fixed installations

Conductor Size mm ²	Unenclosed			Enclosed	Buried Direct	Underground Ducts			Three Phase Voltage Drop mV/A.m	
	Spaced	Spaced from Surface	Touching	Conduit in Air		Trefoil	Flat			
										
Single Phase										
10	106	91	86	75	75	81	93	4.48	4.48	
16	139	120	112	97	138	103	122	2.48	2.85	
25	185	159	149	129	178	133	157	1.84	1.84	
35	229	197	184	158	213	160	187	1.31	1.31	
50	289	249	232	203	251	199	225	0.921	0.926	
70	364	312	292	250	308	243	275	0.658	0.665	
95	439	378	352	296	369	284	334	0.509	0.518	
120	521	447	417	354	420	335	378	0.408	0.419	
150	601	516	482	404	472	378	424	0.340	0.353	
185	689	592	552	469	533	428	489	0.293	0.307	
240	829	712	663	576	618	510	565	0.242	0.259	
300	958	820	764	655	696	575	654	0.213	0.232	
400	1155	982	915	810	791	687	742	0.187	0.208	
500	1348	1138	1059	924	894	773	864	0.172	0.194	
630	1598	1327	1235	1063	1004	878	975	0.159	0.182	

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For typical New Zealand installation conditions:

Ambient Air Temperature: 30°C
Soil Thermal Resistivity: 1.2 K.m/W

Soil Temperature: 15°C
Depth of Burial: 0.5 m

Example Product Range

- Alsecure[®] Standard Single Core

Current Ratings













Three & Four Conductor PVC (Three Phase)

Maximum conductor temperature 75°C

PVC insulation

Armoured or unarmoured

For cables up to and including 0.6/1 kV @ 50 Hz AC.

Conductor Size mm ²	Unenclosed				Enclosed		Buried Direct		Underground Ducts		Three Phase Voltage Drop mV/A.m	
	Spaced from Surface		Touching		Conduit in Air							
												
Three Phase												
	Cu	Al	Cu	Al	Cu	Al	Cu	Al	Cu	Al	Cu	Al
1.0	15	-	14	-	13	-	15	-	15	-	44.7	-
1.5	18	-	17	-	16	-	20	-	20	-	28.6	-
2.5	26	-	25	-	23	-	28	-	28	-	15.6	-
4	35	-	33	-	29	-	36	-	36	-	9.71	-
6	46	-	42	-	38	-	46	-	46	-	6.49	-
10	62	-	58	-	50	-	61	-	61	-	3.86	-
16	82	64	78	60	66	51	106	83	80	62	2.43	4.04
25	111	86	104	81	87	67	138	107	103	80	1.54	2.54
35	137	106	128	99	107	83	165	129	125	98	1.11	1.84
50	166	129	156	121	128	99	196	152	150	116	0.829	1.36
70	211	163	196	153	162	127	241	187	187	145	0.583	0.948
95	260	202	243	188	202	156	289	224	229	177	0.431	0.691
120	302	235	282	219	230	179	330	256	261	202	0.351	0.552
150	345	268	321	250	260	202	370	287	293	228	0.296	0.457
185	397	310	369	288	300	235	417	326	334	261	0.251	0.373
240	470	368	437	343	360	283	482	378	395	309	0.210	0.297
300	538	424	499	393	-	-	542	427	444	350	0.186	0.251
400	620	495	575	458	-	-	613	488	515	411	0.168	0.212

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For typical New Zealand installation conditions:

Ambient Air Temperature: 30°C
Soil Thermal Resistivity: 1.2 K.m/W

Soil Temperature: 15°C
Depth of Burial: 0.5 m

Example Product Range

- Remoxel
- PVC Armoured Mains
- PVC Neutral Screen
- TPS

Current Ratings











Three & Four Conductor XLPE (Three Phase)

Maximum conductor temperature 90°C

XLPE insulation

Armoured or unarmoured

For cables up to and including 0.6/1 kV @ 50 Hz AC.

Conductor Size mm ²	Unenclosed				Enclosed		Buried Direct		Underground Ducts		Three Phase Voltage Drop mV/A.m	
	Spaced from Surface		Touching		Conduit in Air							
												
Three Phase												
	Cu	Al	Cu	Al	Cu	Al	Cu	Al	Cu	Al	Cu	Al
2.5	31	-	29	-	26	-	31	-	31	-	16.4	-
4	42	-	39	-	33	-	40	-	40	-	10.2	-
6	53	-	50	-	42	-	49	-	49	-	6.80	-
10	73	-	68	-	58	-	67	-	67	-	4.05	-
16	97	75	91	70	75	58	118	91	87	67	2.55	4.24
25	131	102	122	95	100	78	153	119	114	89	1.61	2.67
35	162	125	151	117	125	97	184	142	139	108	1.17	1.93
50	198	154	185	143	150	116	218	170	166	128	0.868	1.43
70	252	196	234	182	190	147	269	209	207	161	0.609	0.993
95	311	242	289	224	230	178	323	250	249	194	0.450	0.723
120	363	282	337	262	271	211	368	286	289	225	0.366	0.577
150	415	322	385	299	305	238	412	320	325	253	0.307	0.476
185	480	374	444	347	354	276	465	364	372	291	0.259	0.388
240	569	446	527	413	425	333	539	423	440	345	0.216	0.307
300	653	514	604	475	-	-	607	477	495	391	0.190	0.258
400	754	601	695	554	-	-	685	546	561	446	0.171	0.216

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For typical New Zealand installation conditions:

Ambient Air Temperature: 30°C
Soil Thermal Resistivity: 1.2 K.m/W

Soil Temperature: 15°C
Depth of Burial: 0.5 m

Example Product Range

- Cempex
- XLPE Armoured Mains
- Alsecure® Premium INFIT Ceramifiable® Multicore 90°C
- XLPE Neutral Screen
- Varolex
- Aluminium URD Cables

Current Ratings

PVC Flexible Cords

Maximum conductor temperature 60°C

Copper conductors

PVC insulation and sheath

Conductor Size mm ²	Current Rating amps	Max DC Resist. @ 20°C Ohm/km		Voltage Drop mV/A.m	
		PACW	TACW	Single Phase	Three Phase
0.5	3	39.0	40.1	94.9	82.2
0.75	7.5	26.0	26.7	63.3	54.8
1.0	10	19.5	20.0	47.5	41.1
1.5	16	13.3	13.7	32.3	28.0
2.5	20	7.98	8.21	19.4	16.8
4.0	25	4.95	5.09	12.0	10.4

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For typical New Zealand installation conditions:

Ambient Air Temperature: 25°C

Example Product Range

- Versolex[®] Multicore Cords
- PVC Flexible Cords
- Titanex Multicore (H07RN-F)

Current Ratings

PVC Appliance Wires

Maximum conductor temperature 75°C

Flexible copper conductors

Used for fixed installations

Conductor Cross Section mm ²	Current Rating Enclosed in Air, Single Phase Amps	Voltage Drop mV/A.m	Current Rating Enclosed in Air, Single Phase Amps	Voltage Drop mV/A.m
1	16	47.5	15	41.1
1.5	21	32.3	17	28.0
2.5	27	19.4	23	16.8
4	35	12.0	31	10.4
6	46	8.03	39	6.95

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For typical New Zealand installation conditions:

Ambient Air Temperature: 30°C

Example Product Range

- Powerlex[®] Appliance Wires

Current Ratings

Single Core Flexible Cables (Single Phase)






Maximum conductor temperature 90°C

Installed as fixed wiring

Flexible copper conductor

Flexible XLPE insulation

For cables up to and including 0.6/1 kV @ 50 Hz AC.

Conductor Size mm ²	Unenclosed			Enclosed	Underground Ducts	Single Phase Voltage Drop mV/A.m
	Spaced from Surface	Touching	Exposed to Sun	Conduit in Air		
						
Single Phase						
6	64	51	37	51	60	8.42
10	89	70	53	70	82	4.87
16	117	94	69	90	105	3.10
25	155	125	91	120	136	2.00
35	191	155	113	145	165	1.43
50	240	196	141	184	203	1.00
70	301	248	177	224	248	0.718
95	361	298	211	273	295	0.558
120	428	354	249	315	341	0.448
150	493	410	286	370	394	0.375
185	563	471	326	415	441	0.323
240	674	567	388	497	520	0.269
300	776	653	444	-	586	0.239
400	927	787	528	-	696	0.211
500	1073	913	607	-	784	0.195
630	1249	1066	703	-	920	0.181

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For typical New Zealand installation conditions:

Ambient Air Temperature: 30°C
Soil Thermal Resistivity: 1.2 K.m/W

Soil Temperature: 15°C
Depth of Burial: 0.5 m

Example Product Range

- Alsecure[®] Premium INFIT Ceramifiable[®] Flex 90°C

Current Ratings

Single Core Flexible Cables (Three Phase)






Maximum conductor temperature 90°C

Installed as fixed wiring

Flexible copper conductor

Flexible XLPE insulation

For cables up to and including 0.6/1 kV @ 50 Hz AC.

Conductor Size mm ²	Unenclosed			Enclosed		Three Phase Voltage Drop mV/A.m	
	Spaced from Surface	Touching	Exposed to Sun	Conduit in Air	Underground Ducts	Trefoil	Flat
							
Three Phase							
6	54	51	37	45	52	7.29	7.29
10	76	70	53	61	71	4.22	4.22
16	100	94	69	80	91	2.68	2.68
25	133	125	91	103	117	1.73	1.74
35	166	155	113	130	143	1.24	1.24
50	210	196	141	158	174	0.869	0.875
70	265	248	177	201	217	0.622	0.630
95	319	298	211	235	254	0.483	0.492
120	381	354	249	282	299	0.388	0.399
150	440	409	286	320	338	0.325	0.338
185	505	470	326	367	382	0.280	0.295
240	608	565	387	430	445	0.233	0.251
300	701	650	442	504	513	0.207	0.227
400	840	780	525	586	593	0.183	0.204
500	972	903	601	693	687	0.169	0.192
630	1133	1052	693	791	780	0.157	0.181

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For typical New Zealand installation conditions:

Ambient Air Temperature: 30°C

Soil Thermal Resistivity: 1.2 K.m/W

Soil Temperature:

Depth of Burial:

15°C

0.5 m

Example Product Range

- Alsecure[®] Premium INFIT Ceramifiable[®] Flex 90°C

Current Ratings

Two Core Flexible Cables (Single Phase)






Maximum conductor temperature 90°C

Installed as fixed wiring

Flexible copper conductor

Flexible XLPE insulation

For cables up to and including 0.6/1 kV @ 50 Hz AC.

Conductor Size mm ²	Unenclosed			Enclosed	Underground Ducts	Single Phase Voltage Drop mV/A.m
	Spaced from Surface	Touching	Exposed to Sun	Conduit in Air		
						
Single Phase						
1.0	21	20	18	18	21	49.8
1.5	26	25	22	22	27	34.0
2.5	35	33	29	30	35	20.3
4	47	44	39	39	46	12.6
6	61	56	48	48	58	8.42
10	86	79	68	68	79	4.87
16	113	106	90	88	102	3.10
25	150	141	119	117	133	2.00
35	186	174	147	142	161	1.42
50	234	219	184	179	199	1.00
70	296	276	230	228	247	0.714
95	354	330	273	266	290	0.551
120	419	391	321	318	340	0.442
150	482	449	366	361	385	0.367
185	549	510	415	413	435	0.315
240	656	609	491	483	508	0.260
300	750	696	558	562	582	0.229
400	892	826	657	655	675	0.201
500	1025	948	747	769	780	0.185

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For typical New Zealand installation conditions:

Ambient Air Temperature: 30°C
Soil Thermal Resistivity: 1.2 K.m/W

Soil Temperature: 15°C
Depth of Burial: 0.5 m

Example Product Range

- Alsecure[®] Standard Multicore Flex
- Versolex[®] Braided Cables

Current Ratings

Three & Four Core Flexible Cables (Three Phase)






Maximum conductor temperature 90°C

Installed as fixed wiring

Flexible copper conductor

Flexible XLPE insulation

For cables up to and including 0.6/1 kV @ 50 Hz AC.

Conductor Size mm ²	Unenclosed			Enclosed	Underground Ducts	Three Phase Voltage Drop mV/A.m
	Spaced from Surface	Touching	Exposed to Sun	Conduit in Air		
						
Three Phase						
1.0	18	17	14	15	18	43.1
1.5	22	21	19	19	22	29.4
2.5	30	29	24	25	30	17.6
4	40	37	32	32	39	10.9
6	51	47	41	41	48	7.29
10	73	67	57	57	66	4.22
16	96	89	76	74	85	2.68
25	128	119	101	98	110	1.73
35	158	149	124	122	136	1.23
50	200	187	156	150	166	0.866
70	253	235	195	190	207	0.618
95	303	282	232	222	242	0.477
120	360	333	273	266	285	0.383
150	413	383	311	301	321	0.318
185	471	436	352	345	363	0.273
240	562	519	417	417	430	0.225
300	642	593	473	-	484	0.198
400	761	702	554	-	575	0.174
500	873	803	630	-	644	0.160

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For typical New Zealand installation conditions:

Ambient Air Temperature: 30°C
Soil Thermal Resistivity: 1.2 K.m/W

Soil Temperature: 15°C
Depth of Burial: 0.5 m

Example Product Range

- Alsecore[®] Standard Multicore Flex
- Versolex[®] Braided Cables

Current Ratings

AAC Aerial Conductors

Aluminium conductor
Bare and PVC covered

Code Name	Area mm ²	Calculated DC Resist. @ 20°C Ohm/km	Reactance at 50Hz with 300 mm Spacing Ohm/km	Current Rating	
				Still Air (amps)	1.0 m/s wind (amps)
Bare					
Namu	24.5	1.17	0.321	85	164
Poko	30.6	0.936	0.314	98	189
Ladybird	42.8	0.670	0.303	121	232
Kutu	49.5	0.579	0.299	132	253
Fly	63.6	0.451	0.291	155	295
Rango	73.6	0.389	0.286	170	323
Grasshopper	84.1	0.342	0.282	184	350
Wasp	106	0.271	0.275	213	403
Beetle	106	0.271	0.271	213	404
Weke	122	0.234	0.270	233	441
Bee	132	0.217	0.268	244	461
Cricket	158	0.181	0.262	275	515
Weta	167	0.172	0.257	286	533
Mata	222	0.130	0.248	345	632
Cockroach	266	0.108	0.242	390	707
Butterfly	323	0.0895	0.236	443	792
Cicada	628	0.0460	0.214	689	1178
Covered					
Namu	24.5	1.17	0.321	90	152
Ladybird	42.8	0.670	0.303	130	212
Kutu	49.5	0.579	0.299	142	232
Fly	63.6	0.451	0.291	168	271
Rango	73.6	0.389	0.286	185	297
Wasp	106	0.271	0.275	234	368
Beetle	106	0.271	0.271	235	369
Weke	122	0.234	0.270	258	399
Weta	167	0.172	0.257	317	484

Note

- 1 Coefficient of linear expansion $23.0 \times 10^{-6}/^{\circ}\text{C}$.
- 2 Modulus of elasticity 65 GPa except for Cicada which is 64 GPa.
- 3 Current ratings are based on an ambient temperature of 30°C, a maximum conductor temperature of 75°C, rural weathered, summer noon and intensity of solar radiation 1000 W/m².

Current Ratings

AAAC Aerial Conductors

1120 Aluminium alloy conductor

Code Name	Area mm ²	Calculated DC Resist. @ 20°C Ohm/km	Reactance at 50Hz with 300 mm Spacing Ohm/km	Current Rating	
				Still Air (amps)	1.0 m/s wind (amps)
Bare					
Chlorine	34.4	0.864	0.310	104	200
Fluorine	49.5	0.599	0.299	131	250
Helium	77.3	0.383	0.285	173	328
Hydrogen	111	0.266	0.273	217	410
Iodine	124	0.239	0.270	231	438
Krypton	158	0.189	0.259	271	507
Neon	210	0.142	0.250	328	603
Nitrogen	262	0.114	0.242	381	690

Note

- 1 Coefficient of linear expansion $23.0 \times 10^{-6}/^{\circ}\text{C}$.
- 2 Modulus of elasticity 65 GPa except for Nitrogen which is 64 GPa.
- 3 Current ratings are based on an ambient temperature of 30°C, a maximum conductor temperature of 75°C, rural weathered, summer noon and intensity of solar radiation 1000 W/m².

Current Ratings

ACSR Aerial Conductors

Aluminium conductor
Galvanised steel reinforced

Code Name	Equ Alu. Area mm ²	Calculated DC Resist. @ 20°C Ohm/km	Reactance at 50Hz with 300 mm Spacing Ohm/km	Current Rating	
				Still Air (amps)	1.0 m/s wind (amps)
Bare					
Magpie	12.7	2.23	0.349	59	113
Squirrel	20.7	1.37	0.322	75	145
Gopher	26.0	1.09	0.315	86	167
Ferret	41.8	0.677	0.299	117	223
Mink	62.2	0.455	0.287	152	285
Raccoon	77.7	0.364	0.280	175	326
Dog	103	0.274	0.271	210	387
Dingo	155	0.182	0.257	274	494
Wolf	155	0.183	0.252	280	501
Jaguar	207	0.137	0.248	336	616
Goat	317	0.0893	0.229	462	814

Note

Current ratings are based on an ambient temperature of 30°C, a maximum conductor temperature of 75°C, rural weathered, summer noon and intensity of solar radiation 1000 W/m².

Current Ratings

Al Aerial Bundled Cables (ABC)

Aluminium conductor
XLPE insulated

Area mm ²	Calculated DC Resist. @ 20°C Ohm/km	Max AC Resistance @ 80°C Ohm/km	Positive Sequence Reactance at 50Hz Ohm/km	Current Rating amps
Two Core				
25	1.20	1.49	0.102	118
35	0.868	1.08	0.0982	140
50	0.641	0.796	0.0924	168
95	0.320	0.398	0.0868	258
Three Core				
35	0.868	1.08	0.0982	134
Four Core				
25	1.20	1.49	0.102	109
35	0.868	1.08	0.0982	134
50	0.641	0.796	0.0924	157
70	0.443	0.551	0.0893	196
95	0.320	0.398	0.0868	241

Note

- 1 Coefficient of linear expansion $23.0 \times 10^{-6}/^{\circ}\text{C}$.
- 2 Modulus of elasticity 59 GPa up to and including 50 mm² and 56 GPa for conductors above 50 mm².
- 3 Current ratings are based on an ambient temperature of 30°C, a maximum conductor temperature of 80°C, wind speed of 1 m/s and intensity of solar radiation 1000 W/m².

Current Ratings

Cu Aerial – Hard Drawn

Hard Drawn copper conductor
Bare and PVC covered

Area mm ²	Calculated DC Resist. @ 20°C Ohm/km	Reactance at 50Hz with 300 mm Spacing Ohm/km	Current Rating	
			Still Air (amps)	1.0 m/s wind (amps)
Bare Made to AS 1746:1991				
6	3.03	0.365	44	87
10	1.80	0.349	61	120
16	1.13	0.334	82	160
25	0.716	0.320	110	212
35	0.516	0.306	135	260
50	0.361	0.295	169	323
70	0.264	0.285	206	392
95	0.186	0.273	256	486
Covered Made to AS/NZS 5000.1				
6	3.17	0.365	45	81
10	1.88	0.349	63	110
16	1.18	0.334	84	147
25	0.749	0.314	115	194
35	0.540	0.306	141	235
50	0.399	0.295	172	281
70	0.276	0.285	218	353
95	0.198	0.273	266	421

Note

- Coefficient of linear expansion $17.0 \times 10^{-6}/^{\circ}\text{C}$.
- Modulus of elasticity for bare conductors:
 - 119 GPa for 6, 10, 16 & 25 mm²
 - 118 GPa for 35, 50 & 70 mm²
 - 117 GPa for 95 mm²
 Modulus of elasticity for covered conductors:
 - 112 GPa for 6, 10 & 16 mm²
 - 110 GPa for 25, 35, 50 & 70 mm²
 - 108 GPa for 95 mm²
- Current ratings are based on an ambient temperature of 30°C, a maximum conductor temperature of 75°C, rural weathered, summer noon and intensity of solar radiation 1000 W/m².

General Data

Useful 3 Phase Formulae

$$\text{kW} = \text{kVA} \times \text{pf}$$

$$\text{kW} = \frac{\text{hp} * 746}{1000 * \text{Eff}}$$

$$\text{kW} = \frac{\text{Line Amps} * \text{Line Volts} * 1.732 * \text{pf}}{1000}$$

$$\text{kVA} = \frac{\text{kW}}{\text{pf}}$$

$$\text{kVA} = \frac{\text{hp} * 746}{1000 * \text{Eff} * \text{pf}}$$

$$\text{kVA} = \frac{\text{Lines Amps} * \text{Line Volts} * 1.732}{1000}$$

$$\text{Line Amps} = \frac{\text{kW} * 1000}{\text{Line Volts} * 1.732 \times \text{pf}}$$

$$\text{Line Amps} = \frac{\text{kVA} * 1000}{\text{Line Volts} * 1.732}$$

$$\text{Line Amps} = \frac{\text{hp} * 746}{\text{Line Volts} * 1.732 * \text{Eff} * \text{pf}}$$

$$\text{Horsepower (hp)} = \frac{\text{kW} * 1000 * \text{Eff}}{746}$$

$$\text{hp} = \frac{\text{kVA} * 1000 * \text{Eff} * \text{pf}}{746}$$

$$\text{hp} = \frac{\text{Line Amps} * \text{Line Volts} * 1.732 * \text{Eff} * \text{pf}}{746}$$

General Data

Wire & Cable Size Comparison

AWG	kcmil	mm ²	inch ²
24	0.40	0.2	-
22	0.64	0.3	-
20	1.02	0.5	-
18	1.62	0.8	-
16	2.58	1.3	-
14	4.11	2.1	0.0032
12	6.53	3.3	0.0051
10	10.38	5.3	0.0082
9	13.09	6.6	0.0103
8	16.51	8.4	0.01296
7	20.82	10.6	0.01635
6	26.24	13.3	0.02061
5	33.09	16.1	0.02598
4	41.74	21.2	0.03278
3	52.62	26.7	0.04133
2	66.36	33.6	0.05212
1	83.69	42.4	0.06573
1/0	105.6	53.5	0.08294
2/0	133.1	67.4	0.10454
3/0	167.8	85.0	0.13179
4/0	211.6	107.2	0.16619
	250	126.7	0.19635
	300	152.0	0.23562
	350	177.3	0.27489
	400	202.7	0.31416
	450	228.0	0.35343
	500	253.4	0.39270

General Data

Motor Current Table (Amperes approx)

Power kW	hp	Single Phase 230V	Three Phase 400V	Single Phase 240V	Three Phase 415V
0.37	0.5	4.2	0.9	4.0	0.9
0.55	0.75	5.2	1.3	5.0	1.3
0.75	1.0	7.2	1.7	6.9	1.7
1.1	1.5	10.0	2.4	9.6	2.3
1.5	2	10.1	3.1	9.7	3.0
2.2	3	13.8	4.6	13.3	4.5
4	5	26.1	7.9	25.0	7.6
5.5	7.5	34.5	11.2	33.0	10.8
7.5	10		14.9		14.4
9.3	12.5		18.7		18.0
11	15		22.4		21.6
15	20		29.9		28.8
18.5	25		38.0		36.6
22	30		44.8		43.2
30	40		52		50.1
37	50		65		62.7
45	60		78		75.2
55	75		95.4		92
75	100		127.2		122.6
90	120		152.7		147.1
110	147		187		180.3

General Data

Abbreviations

Abv.	Description	Abv.	Description
A.m.	Ampere metre	kV	Kilovolt
AC	Alternating current	kVA	Kilovoltamp
Al	Aluminium	kW	Kilowatt
AS	Australian Standard	L.D.	Light Duty
AS/NZS	Australian and New Zealand Standard	mm	Millimetre
C	Core	nF/km	Nanofarad/kilometre
°C	Degrees Celsius	NZS	New Zealand Standard
CPE	Chlorinated Polyethylene	OD	Outside diameter
CSA	Cross-sectional Area	O.D.	Ordinary Duty
CSP	Chlorosulphinated Polyethylene	PACW	plain annealed copper wire
Cu	Copper	PE	Polyethylene
dB	Decibel	pf	Power factor
DC	Direct Current	pF/m	Picofarad/metre
E	Earth	PILC	Paper insulated lead covered
EA	Ethylene Acrylic	PVC	Polyvinyl Chloride
Eff	Efficiency	R-CPE-90	Rubber – Chlorinated Polyethylene - 90°C
ELV	Extra Low Voltage	R-EP-90	Rubber – Ethylene Propylene - 90°C
EPR	Ethylene Propylene Rubber	R-HF-110	Rubber - Halogen Free – 110°C
HD	Hard Drawn	SWA	Steel Wire Armoured
H.D.	Heavy Duty	TACW	Tinned Annealed Cooper Wire
HFS-90-TP	Halogen Free Sheath – 90°C – Thermoplastic	TPW	Thermoplastic welding
HF-110-R	Halogen Free – 110°C – Rubber	UTP	Unshielded twisted pair
hp	Horse power	V	Volt
HR	Heat Resistant	V75	75°C rated PVC
HRC	High Rupture Capacity	V90	90°C rated PVC (for restricted periods)
ISDN	Integrated Services Digital Network	V90HT	90°C rated PVC – 105°C (for restricted periods)
kg	Kilogram	X-HF-90	XLPE – halogen free - 90°C
kN	Kilonewton	XLPE	Cross linked Polyethylene

General Data

Copper Earthing Conductors

Minimum size of Copper earthing conductors.

Nominal area active conductors mm ²	For Copper active conductors mm ²	For Aluminium active conductors mm ²
1.0	1.0*	-
1.5	1.5*	-
2.5	2.5	-
4	2.5	-
6	2.5	-
10	4	-
16	6	4
25	6	6
35	10	6
50	16	10
70	25	10
95	25	16
120	35	25
150	50	25
185	70	35
240	95	50
300	120	70

* Refer Wiring Rules AS/NZS 3000 regarding 1.0 and 1.5 earthing conductors.

The Nexans 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[®] Screened VSD/EMC

Fire Performance Cables

Alsecure[®] Premium Ceramifiable[®]
Fire Rated (FR)

- single core ES90
- multicore ES90
- flex
- FRP

Fire Safe (FS) Power
Rolling Stock
Locomotive
Alsecure[®] Envirolex[®]

Instrolex[®] Instrumentation Cables

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

Flexible Power & Control Cables

Versolex[®]

- XLPE/TPE
- Power
- Welding
- EMC/VSD
- Submersible

Titanex[®]
PVC/PVC Power
PVC/PVC Control

Data & Communications Cables

Datolex[®]

- Security
- Figure 8
- Category 5E LAN
- Category 6 LAN
- Coaxial

Gardolex[™] Garden Lighting
Audiolex[®]

- Speaker
- Coaxial

Fibre

- Multi Mode
- Single Mode

Telephone

- Internal
- External

Data

The Nexans Range

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 & Secondary cables
Automation Cables
Offshore Oil & 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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