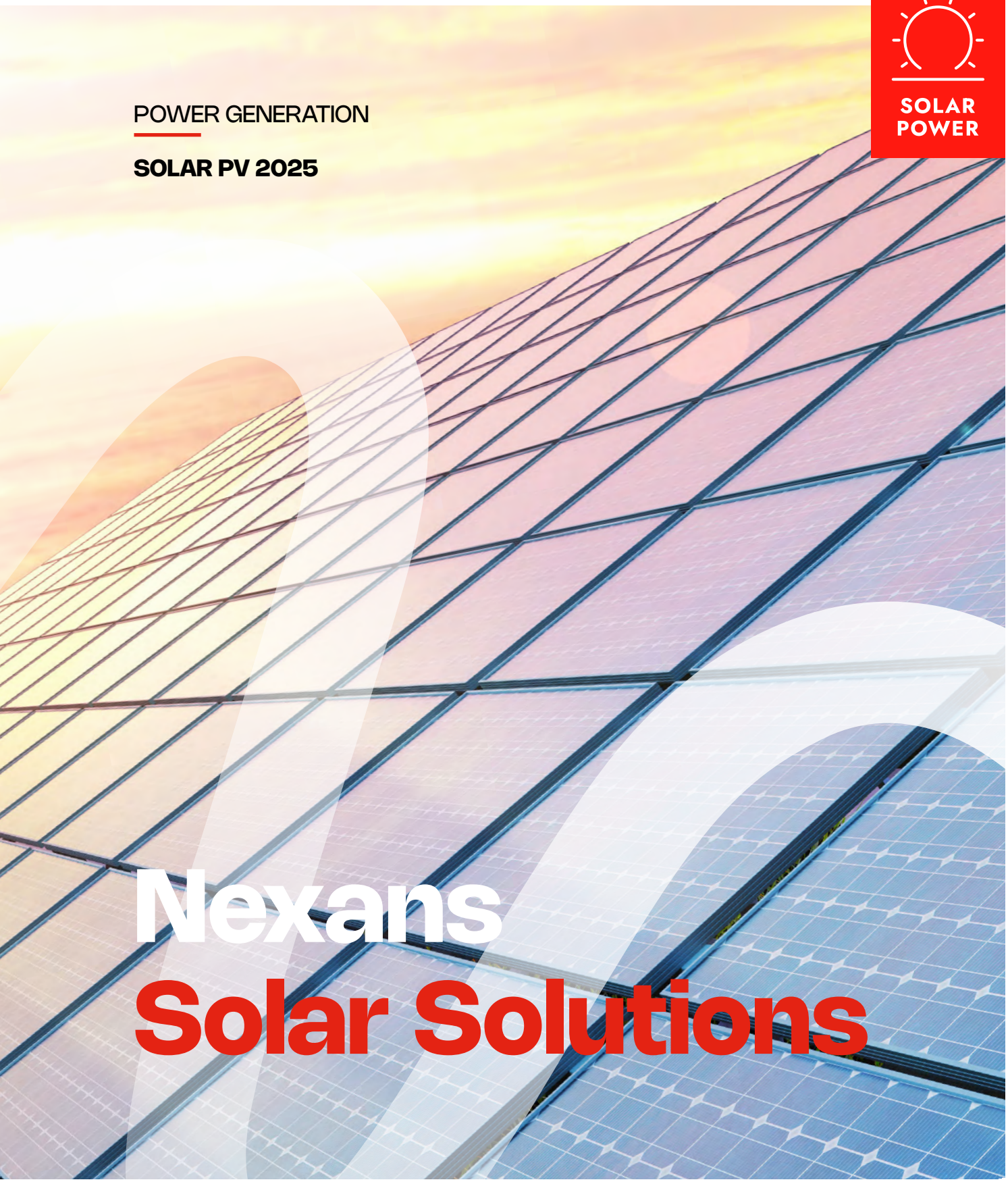
SOLAR POWER

POWER GENERATION

SOLAR PV 2025



Nexans Solar Solutions

Large Scale Solar Catalogue

Nexans

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Nexans
Solar Solutions

SOLAR POWER

Sustainability

Our mission is to Electrify the Future and work towards a new world of sustainable electrification - decarbonized, renewable and accessible to everyone.

Nexans' business operations and internal activities are committed to a range of Corporate Sustainable Responsibility (CSR) principals that focus on our people, our partners, our products and our planet for a more sustainable future.

These CSR principles draw on the Sustainable Development Goals set by the United Nations, which the Group adopted in 2008 when it joined the Global Compact. Here in Australia, our aim is to be consistent with Nexans' mission and purpose at a local level by being an innovative company and recognized as such by employees and customers. We consider our people and the planet as integral to our success and commit to delivering on our promises, mission, purpose and values.

By electrifying the future, Nexans is targeting the global investments and plans that will help us achieve our carbon neutrality target by 2030.

Recognised globally for its high achievements in advancing sustainability, Nexans' efforts are reflected in its global sustainable performance rating as follows:

- **CDP award "A-" Carbon Disclosure Project Rating**
  CDP is a not-for-profit charity that runs a gold standards global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts towards accelerating the Rate of Change

- **ISS ESG Decile Ranking 1, Rating B**
  ISS Management is a leading provider of corporate governance and responsible investment solutions, market intelligence, fund services, and events and editorial content for institutional investors and corporations, globally.

- **EcoVadis rating 78/100 and Platinum Medal**
  EcoVadis is the world's largest and most trusted provider of business sustainability ratings, creating a global network of more than 100,000+ rated companies.

- **Sustainalytics ESG Risk rating 20.6**
  Morningstar sustainalytics provides high-quality, analytical Environmental, Social and Governance (ESG) research, risk ratings and data to institutional investors and companies,

- **MSCI Rating "A"**
  MSCI has over 50 years of expertise in research, data and technology enabling clients to understand and analyse key drivers of risk and return and confidently build more effective portfolios.





Our Focus

Nexans' innovative Solar Solutions cover full electrical connectivity from the PV Array to the Solar Farm Substation, delivering significant value across the entire value chain:

- **FASTER AND SAFER**
- **REDUCED ON-SITE LABOUR**
- **NEXANS FACTORY QUALITY**
- **SITE SELECTION FLEXIBILITY**
- **LOWER COST OF OWNERSHIP**
- **BETTER FOR THE ENVIRONMENT**

Our Value

- Comprehensive connectivity capabilities for solar farm plants
- CAPEX & OPEX savings to meet competitive Power Purchase Agreements and ROI targets
- Collector system installation scope that provides a tangible system warranty
- Long design life for solar assets to best secure lifetime business model expectations
- Compliance with the latest international standards to mitigate risk
- Minimal environmental impact through lower CO_2 emissions during the entire life cycle
- Recycling for circular economies aligned with Sustainable Development Strategies
- Benefiting from Nexans' expertise in energy management, data networking, and grid connectivity
- Collaboration with bankable cable system solution partners to reduce financial costs and mitigate risks
- Support with international development plans, including certification, local delivery, and local sourcing at an equal level of quality

Scope

Nexans Solar Under Array PV Cable System Solutions

- Designed to optimise under array cable and combiner box cost
- Fully certified PV cable for standards compliance
- Factory-assembled and tested for quality assurance to prevent site commissioning failures
- Reduction in on-site labour skill level, number and cost
- Quick installation, short project duration

Nexans Solar MV & DC Cable Solutions

- Nexans Solar MV & DC System designing & modelling to optimise CAPEX vs OPEX cost
- Narrow trench & installation corridor design for DC & MV cable systems
- Quicker installation with reduced trenching
- Lower cost of ownership
- Safer installation without open trenches
- Reduced labor and machinery; smaller carbon footprint
- Minimum 30 year design life

Nexans Solar Value Add **System Solutions**

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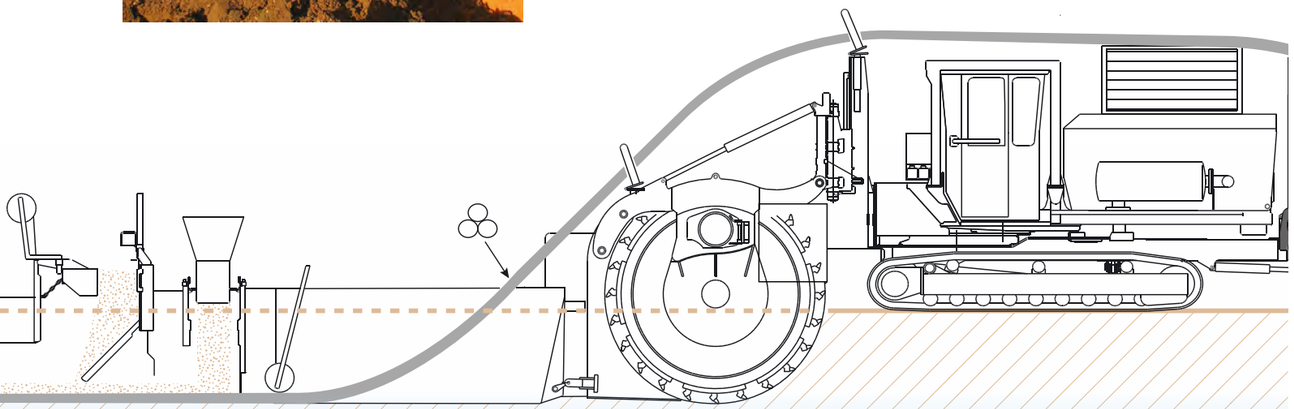
Nexans Turnkey Solution



Nexans has developed optimised solutions for the design, supply, installation, and commissioning of wind farm MV cable collector systems, a solution that is facilitated through a group of Nexans consortium partners and covers the project delivery scope, from turnkey and EBOP to full BOP contracts.

The Nexans turnkey solution provides a pathway to lower cost of ownership, along with tangible project time and cost benefits. Its design focuses on addressing the cabling challenges arising from the increasing sizes of MW wind turbines, allowing for fewer cable trunk runs to the substation and consequently shorter trench and cable lengths.

The Nexans installation design also utilizes the mechanical trenching process to provide single, dual, and triple trench solutions, resulting in narrow trenching corridors and faster, safer projects. Great care is taken with the design and installation parameters to maximize whole-of-life efficiency and reliability.





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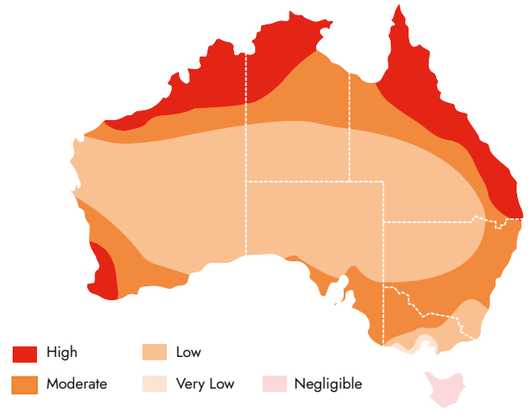
Nexans ECOTERM™

In collaboration with CSIRO, Nexans Australia has developed Nexans ECOTERM™, a pesticide-free termite barrier.

Termite Threat

Australia has suffered from issues associated with termite attacks on underground cables for more than 100 years. Termites damage cables through their formidable bites and chemical secretions, penetrating unprotected plastic sheaths and soft metals, causing system failure and according to data shared by CSIRO, the risk of termite attack is highest in Northern Australia, as well as in the small region around and to the south of Perth.

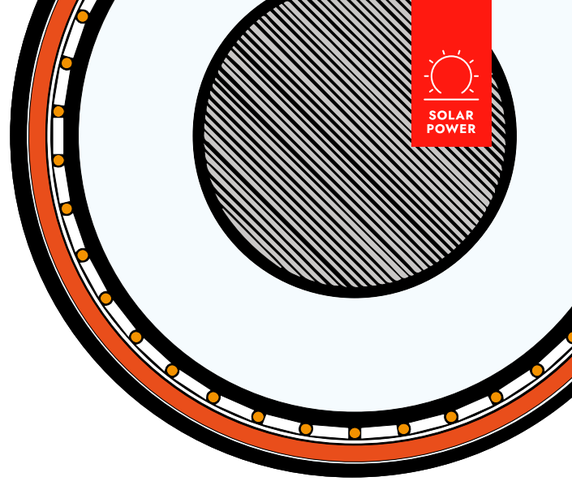
Destructive termite risk assessment

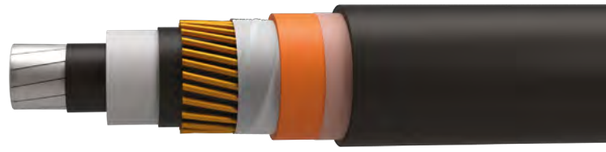


Pesticide impregnated cable



Termites can damage cables by secreting corrosive chemicals that deteriorate materials and by using their strong jaws to bite through plastic sheaths and soft metals. This can expose the inner components of cables, leading to potential electrical failures.





NEXANS ECOTERM™, Termite Protection For Life

The Nexans ECOTERM™ Solution is a mechanical termite barrier tape applied between the inner and outer cable sheaths, providing excellent lifetime protection against termite attacks. It was jointly developed by Nexans and CSIRO, with testing proving its total effectiveness as a barrier in a hostile termite laboratory environment. Since 2018, thousands of kilometers of Nexans ECOTERM™ have been installed.

Laboratory tests indicated that harsh chemicals added to the outer sheath during cable manufacturing deplete to almost zero over a relatively short time period making Nexans ECOTERM™ the most suitable solution as it has all the essential properties, including hardness, smoothness, and chemical resistance similar to Nylon 12, yet it is easier to install and comes at a lower cost.

Nexans ECOTERM™ is:

- CSIRO tested – 100 % effective
- A life time solution (30-40 years)
- Proven in the field – more effective than pesticides
- Easy to install with lower bend radius compared to Nylon
- Safe for installers – No pesticide
- Safe for the environment — no chemical or pesticide leaching into the soil.
- Developed here in Australia, specifically for Australian conditions

Nexans "Nexans ECOTERM™ is a unique solution protected by patent AU/2011253718.

SOLAR POWER

Project services

Our project services are an all-encompassing package including our Technical and Engineering service and customised add-ons of innovative solutions that are beyond cable.

MOBIWAY™ UN'REEL

A revolutionary 360° Self-Spinning Reel specifically designed to simplify and secure low and medium voltage cable installation. An innovative solution with cutting-edge design that incorporates smart cabling technology and allows for easy rolling, unwinding, and movement of cables while ensuring maximum safety for all users. Additional cut to length service, with our state of the art cutting equipment, can be included to suit each order.





ULTRACKER™

Protect your assets with Nexans advanced cable drum fleet tracking and management service – ULTracker! Our drum fleet system is an IoT-based innovation, by interfacing drums with Enterprise Resource Planning (ERP) for tracking using GPS and managing fleets and inventory.

Customers can remotely operate and connect to drums via mobile or web platform, with real-time location and quantities for the amount of cable on the drum.

This solution reduces complexity of cable and drum management, increases asset security and in turn reducing OPEX.



DEVICE EMBEDDED INSIDE THE DRUM

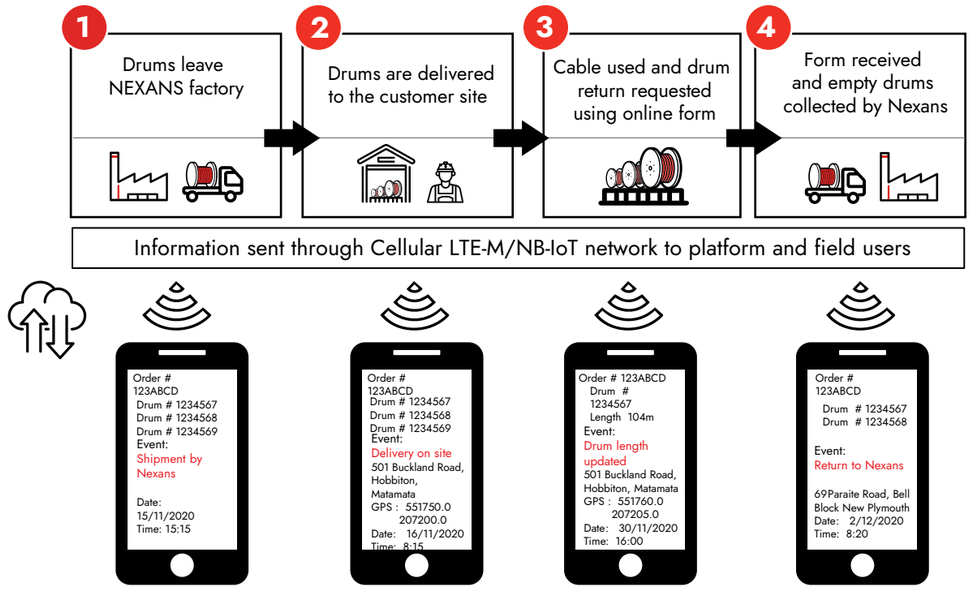
MANAGE THE DRUM RETURN FROM YOUR PHONE OR LAPTOP

MANAGE WHERE YOUR DRUMS ARE AND WHATS LEFT

- Geofencing/GPS
- Battery sensor
- Movement sensor
- Drum identification
- Communication module 4G NB-IoT Connectivity

LOGISTICS FLOW

Real-time tracking and remote monitoring at each delivery step.



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Nexans PV Harness

The Nexans Solar Harness mitigates risks associated with on-site termination failures and reduces the need for scarce and costly on-site labor.

Off-site manufacturing removes the Nexans PV cable from the project's critical path, while the optimized under-array design facilitates cost-effective cable and combiner box solutions.

- **REDUCED INSTALLATION TIME**
- **IN-HOUSE TESTING BEFORE SHIPMENT**
- **NEXANS WARRANTY**



Nexans pre-terminated PV DC MC4 harness assemblies

Application

The Nexans 1.5 kV PV DC MC4 string assemblies are based on Nexans cross-linked PV DC cable to IEC 62930 and offer exceptional performance, easy installation and long-term reliability for solar plant. The Nexans Harness is designed to link photovoltaic panels for utility-scale solar plants to the combiner box.

Specification

- Rated Voltage DC: 1500V
- Fuse Current Max: 50A
- IP 68 Rated
- IEC Certified
- Cable to IEC 62930
- TUV Certificate
- Service Life >30 years



Based on single core PV DC solar cable

Low fire hazard, cross-linked insulation and sheath.

Key benefits

Nexans supply tailor made PV DC MC4 string assemblies according to customers' required lengths, marking/ labelling & MC4 connector types.

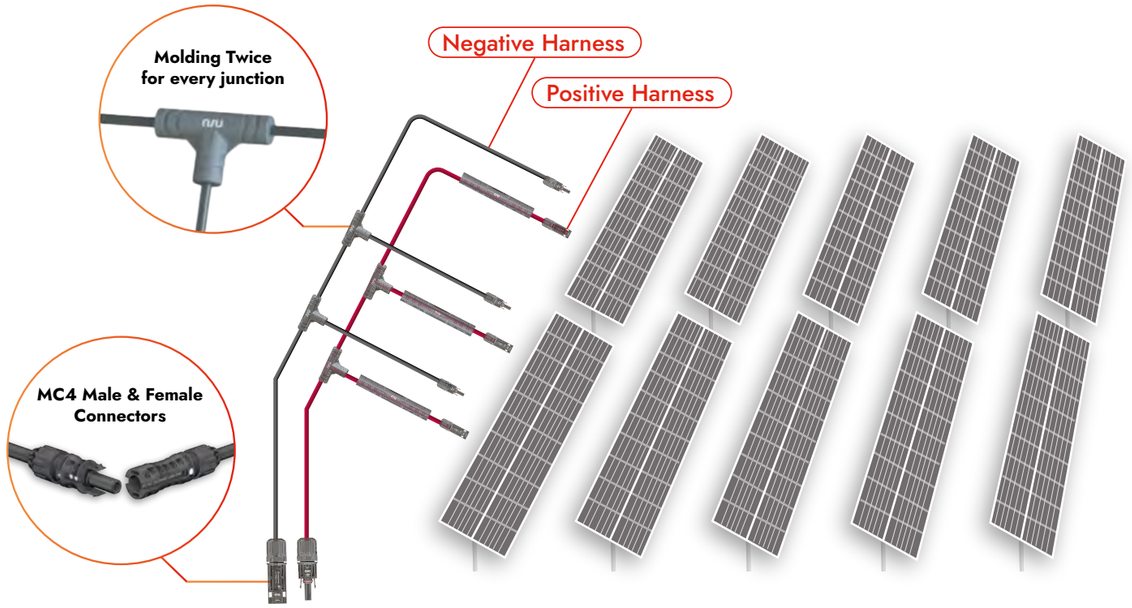
Installation friendly

Custom made PV DC MC4 string assemblies to enable a faster deployment on site while improving electrical reliability over time.

No need for crimping on site for higher reliability and sustainability. Specific packaging & labelling to fit installation on site.



Pre-terminated PV DC MC4



Pre-terminated PV DC MC4 string assemblies according to AS/NZS 5033 (Installation and safety requirements for photovoltaic (PV) arrays) and IEC 62548 (Photovoltaic (PV) arrays – Design requirements).

Select MC4 connector brand to match the PV panel connector. Inline fuse, holder & moulded "T" assembly also available.

- Confirm assembly length
- Confirm marking & labelling

Nexans Cable Bus Assembly

The Nexans Cable Bus Assembly is designed to optimise large-scale solar farm sub-array PV string cable systems by eliminating the combiner box and the multitude of PV string cables.

The basis of this new Nexans design is that the sub-array underground DC cable circuit continues above ground as a bus cable and under the PV array.

Fuse strings are welded via a patented process to the bus, providing a connection quality that exceeds the design life of the cable system.

On-site string cable installation labor is eliminated with this factory-tested, "plug and play" cable bus assembly system.



Available in sizes up to 400mm² Al and with 6mm² Cu string fuse take-offs

Nexans Solar Cable Solutions

SOLAR POWER

Solar Cable Solutions



Nexans PV Cable

Sizes 4 mm² through to 35 mm² tinned class 5 flexible copper conductor, 1500/1800 V DC low fire hazard and fully certified to IEC 62930 standard. Various polarity identification options available.

Construction

- Single core, tinned copper cables 4 mm² to 35 mm². Options available for ECOTERM™ and support with fully tested harnesses.

Standards

- IEC 62930, EN 50618
- TUV Certified

Voltage Rating

- 1500 (1800) V DC

Nexans MV Cable

33 kV 1C & 3C, 95 mm² to 1,200 mm² Al or Cu to AS/NZS 1429.1. Available in a range of copper wire fault screen sizes, swellable water barrier tapes, ECOTERM™, nylon 12 or double brass tape, pesticide free termite barriers plus a robust HDPE mechanical protection sheath. Other sizes and voltages available upon request.

Construction

- 1 or 3 cores; stranded compacted aluminium or copper conductor; TR-XLPE insulation, copper wire metallic screen, with composite PVC, ECOTERM™ (optional) and HDPE protective oversheath.

Standards

- AS/NZS 1429.1

Voltage Rating

- 19/33 kV





Underground Junction Chamber

For onshore renewable power parks, the underground junction chamber will be used as a single circuit connecting point for cable-jointing and multi-circuit branching applications.

Construction

- Burial type 316 stainless steel housing.
- Robust design with IP68 degree of protection (IEC 60529/AS 60529).
- Suitable for voltages up to 42 kV, 1250 Amps
- Suitable for cables up to 1200 mm²



Nexans DC Cable

Under Array

Sizes 120 mm² to 630 mm² Al or Cu 1500/1800 V DC for in-air under array installation. Low fire hazard and compliant with IEC 62930 where applicable. Various polarity identification options available.

Construction

- Single core 120 mm² to 630 mm² Al or Cu 1500 (1800) V DC XLPO/XL-HFFR.

Standards

- IEC 62930, AS/NZS 5000.1

Voltage Rating

- 1500 (1800) V DC

Nexans DC Cable

Under Ground

Sizes 120 mm² to 630 mm² Al or Cu 1500/1800 V DC application and designed for underground installation including ECOTERM™ or nylon termite protection and HDPE outer sheath for mechanical protection and water barrier, to meet both AS/NZS 5000.1 and IEC 62930 standards test requirements. Various polarity identification options available.

Construction

- Single core, aluminium or copper 120 mm² to 630 mm², XLPE/HDPE.

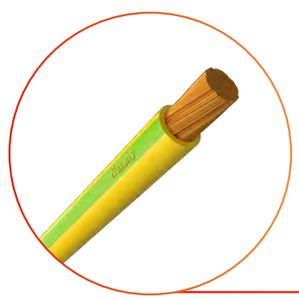
Standards

- IEC 62930, AS/NZS 5000.1

Voltage Rating

- 1500 (1800) V DC





Nexans Cables

Communication, Control and Earthing

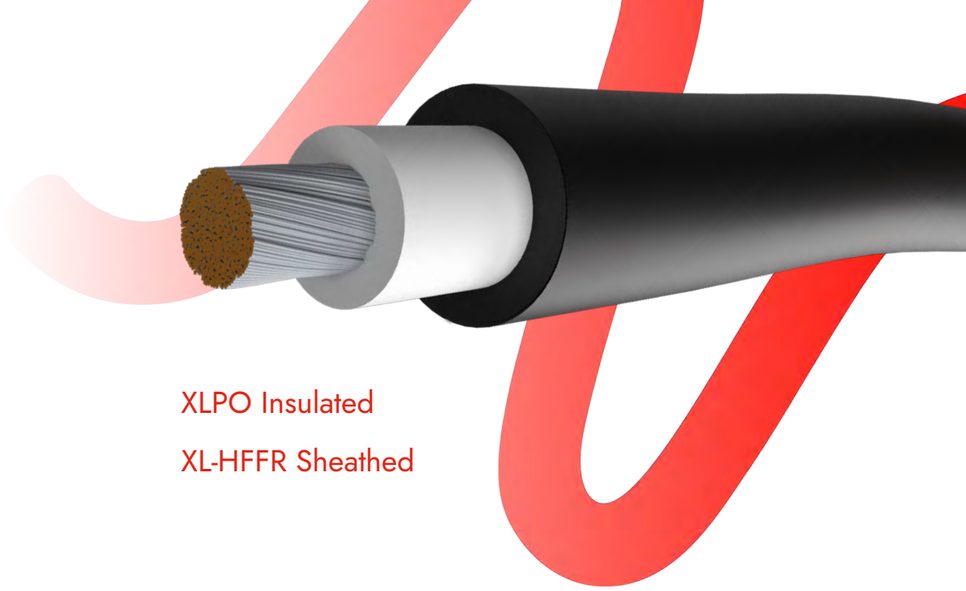
Nexans can also supply a complete range of LV, control, communication cables and earthing cables that would be required on most solar farm projects.

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Nexans PV Cable

Single Core Flexible Tinned Copper Conductors

1 Conductor flexible tinned annealed copper, 1500 V DC XLPO insulated, XL-HFFR sheathed, PV cable to IEC 62930. Optional: termite barrier (ECOTERM™) taped.



Electrical Characteristics

Nominal conductor area	Conductor DC resistance at 20 °C	Conductor DC resistance at 90 °C	Insulation resistance at 20 °C
mm²	Ω/km	Ω/km	MΩ.km
4	5.09	6.49	709
6	3.39	4.33	610
10	1.95	2.49	489
16	1.24	1.58	393
25	0.795	1.01	395
35	0.565	0.720	335

Current Ratings

Nominal conductor area	Continuous current-carrying capacity, A									Fault current carrying capacity for 1 second
	In Air				In Ground		In Underground ducts			
mm²										Conductor kA
4	38	45	26	28	60	61	50	50	43	0.57
6	49	58	33	36	75	76	62	63	54	0.86
10	69	83	47	50	102	104	84	85	75	1.4
16	91	109	62	65	131	134	107	108	96	2.3
25	120	144	83	84	167	171	138	140	124	3.6
35	147	178	103	102	202	206	166	168	150	5.0

Physical Characteristics

Nominal conductor area	Conductor form	Nominal conductor diameter	Nominal insulation thickness	Nominal diameter over insulation	Approx. mass	Maximum pulling tension	Nominal duct diameter		Nominal overall diameter	Minimum bending radius		Product code
										During pulling	Set in position	
mm²		mm	mm	mm	kg/100m	kN	mm	mm	mm	mm	mm	
4	Flexible	2.5	0.7	4.0	6	0.08	20	20	5.7	34	23	TFBR56PV001
6	Flexible	3.2	0.7	4.7	8	0.12	20	25	6.5	39	26	TFBR57PV001
10	Flexible	4.5	0.7	6.1	13	0.20	20	32	7.8	47	31	TFBE08PV001
16	Flexible	5.7	0.7	7.2	19	0.32	20	32	9.1	55	36	TFBE20PV001
25	Flexible	7.1	0.9	9.0	28	0.50	25	40	11.1	67	45	TFBE07PV001
35	Flexible	8.4	0.9	10.3	39	0.70	25	40	12.6	76	51	TFBE04PV001

ECOTERM™ Termite Protection

Nominal overall diameter	Minimum bending radius		Product code
	During pulling	Set in position	
mm	mm	mm	
5.8	35	23	TFFR56PV001
6.6	39	26	TFFR57PV001
7.9	47	32	TFFE08PV001
9.2	55	37	TFFE20PV001
11.3	68	45	TFFE07PV001
12.8	77	51	TFFE04PV001

SOLAR POWER

Nexans DC Cable

Single Core Aluminium Conductors

Under Array

1 Conductor stranded compacted aluminium, 1500 V DC XLPO (X-90) insulated, XL-HFFR sheathed, to AS/NZS 5000.1 and IEC 62930 where applicable, aboveground DC solar sub-array cable.

XLPO Insulated

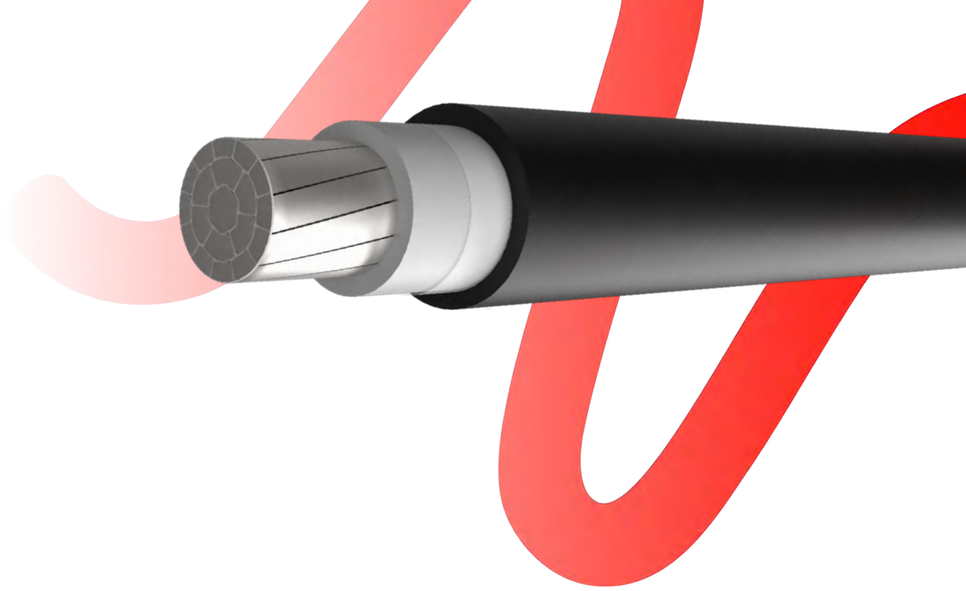
XL-HFFR Sheathed

Under Ground

1 Conductor stranded compacted aluminium, 1500 V DC XLPE (X-90) insulated, termite barrier (ECOTERM™) taped, HD polyethylene sheathed, to AS/NZS 5000.1 and IEC 62930 where applicable, underground DC solar sub-array cable.

ECOTERM™

HDPE Sheathed



Electrical Characteristics

Nominal conductor area	Conductor DC resistance at 20 °C	Conductor DC resistance at 90 °C	Insulation resistance at 20 °C
mm²	Ω/km	Ω/km	MΩ.km
95	0.320	0.410	251
120	0.253	0.324	244
150	0.206	0.264	254
185	0.164	0.210	261
240	0.125	0.160	243
300	0.1000	0.128	231
400	0.0778	0.0997	227
500	0.0605	0.0776	210

Current Ratings

Nominal conductor area	Continuous current-carrying capacity, A																		Fault current carrying capacity for 1 second
	In Air								In Ground				In Underground ducts						
mm²	A*	G*	A*	G*	A*	G*	A*	G*	A*	G*	A*	G*	A*	G*	A*	G*	A*	G*	Conductor kA
95	211	259	256	296	149	212	144	190	275	278	281	284	230	232	233	235	209	211	9.0
120	244	301	297	345	174	248	167	225	313	316	320	323	266	268	270	272	243	244	11.4
150	278	345	339	395	199	286	188	253	350	354	359	362	297	300	302	305	273	274	14.2
185	320	399	391	457	229	332	218	299	397	401	407	411	336	339	342	345	315	317	17.5
240	380	477	465	546	273	399	256	350	462	466	473	478	398	401	405	408	368	370	22.7
300	438	552	537	633	314	464	292	407	523	527	536	541	450	453	458	461	422	424	28.4
400	514	653	632	748	370	552	340	472	601	607	617	623	527	531	538	542	487	490	37.8
500	604	772	745	885	435	654	396	567	693	698	712	718	606	610	619	623	572	576	47.3

A: Under Array G*: Under Ground*

Physical Characteristics

Nominal conductor area	Conductor form	Nominal conductor diameter	Nominal insulation thickness	Nominal diameter over insulation	Maximum pulling tension	Nominal duct diameter		Nominal overall diameter	Approx. mass	Minimum bending radius		Product code	Under Ground: Nominal overall diameter	Under Ground: Approx. mass	Under Ground: Minimum bending radius		Under Ground: Product code
										During pulling	Set in position				During pulling	Set in position	
mm²		mm	mm	mm	kN	mm	mm	mm	kg/100m	mm	mm		mm	kg/100m	mm	mm	
95	Compacted	11.4	1.1	13.7	4.8	32	50	16.8	39	200	130	XGCA22MQ001	17.0	37	420	250	XGCA22TY001
120	Compacted	12.8	1.2	15.3	6.0	40	63	18.4	48	220	150	XGCA23MQ001	18.6	45	460	280	XGCA23TY001
150	Compacted	14.2	1.4	17.1	7.5	40	63	20.5	59	250	160	XGCA24MQ001	20.6	55	510	310	XGCA24TY001
185	Compacted	15.7	1.6	19.0	9.3	40	65	22.4	70	270	180	XGCA25MQ001	22.5	67	560	340	XGCA25TY001
240	Compacted	18.0	1.7	21.5	12.0	50	65	25.1	89	300	200	XGCA26MQ001	25.2	85	630	380	XGCA26TY001
300	Compacted	20.1	1.8	23.8	15.0	50	80	27.6	109	330	220	XGCA27MQ001	27.8	104	690	420	XGCA27TY001
400	Compacted	23.0	2.0	27.1	20.0	63	80	31.3	142	380	250	XGCA28MQ001	31.4	135	790	470	XGCA28TY001
500	Compacted	26.1	2.2	30.7	25.0	63	100	34.9	175	420	280	XGCA30MQ001	35.0	168	880	530	XGCA30TY001

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Nexans MV Cable

Single Core Aluminium Conductors

1 Conductor stranded compacted aluminium, semiconductive conductor screen, 19/33 kV TR-XLPE insulated, strippable semiconductive insulation screen, copper wire screened (suitable for 3 kA for 1 sec fault level), PVC (5V-90) sheathed, termite barrier (ECOTERM™) taped, HDPE sheathed, to AS/NZS 1429.1.



3 kA
Screen Fault Level

Electrical Characteristics

Nominal conductor area	Conductor DC resistance at 20 °C	Conductor AC resistance at 50 Hz and 90 °C		Inductive reactance at 50 Hz			Insulation resistance at 20 °C	Conductor to screen capacitance	Charging current per phase	Dielectric loss per phase	Max. dielectric stress	Screen DC resistance at 20 °C	Zero sequence resistance at 20 °C	Zero sequence reactance at 50 Hz
		Trefoil or flat touching	Flat spaced	Trefoil touching	Flat touching	Flat spaced								
mm²	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	MΩ.km	µF/km	A/km	W/km	kV/mm	Ω/km	Ω/km	Ω/km
120	0.253	0.325	0.325	0.128	0.149	0.195	12990	0.171	1.0	77.5	3.7	0.887	1.14	0.0742
150	0.206	0.264	0.264	0.124	0.146	0.191	12120	0.183	1.1	83.1	3.6	0.888	1.09	0.0708
185	0.164	0.211	0.211	0.120	0.142	0.187	11310	0.196	1.2	89.0	3.5	0.885	1.05	0.0672
240	0.125	0.161	0.161	0.115	0.136	0.182	10270	0.216	1.3	98.1	3.4	0.887	1.01	0.0627
300	0.100	0.129	0.129	0.111	0.132	0.178	9400	0.236	1.4	107	3.3	0.885	0.986	0.0587
400	0.0778	0.101	0.101	0.107	0.128	0.173	8530	0.260	1.6	118	3.2	0.887	0.966	0.0547
500	0.0605	0.0793	0.0788	0.104	0.125	0.170	7520	0.295	1.8	134	3.1	0.886	0.948	0.0521
630	0.0469	0.0625	0.0617	0.101	0.121	0.167	6790	0.327	2.0	148	3.0	0.889	0.937	0.0490
800	0.0367	0.0501	0.0491	0.0976	0.118	0.163	6340	0.350	2.1	159	2.9	0.887	0.925	0.0465
1000	0.0291	0.0412	0.0398	0.0949	0.115	0.161	5790	0.383	2.3	174	2.8	0.864	0.896	0.0439
1200 †	0.0247	0.0319	0.0318	0.0954	0.115	0.161	5310	0.418	2.5	190	2.7	0.780	0.805	0.0449
1200 ‡	0.0247	0.0362	0.0346	0.0926	0.112	0.158	5440	0.408	2.4	185	2.8	0.820	0.848	0.0418

Current Ratings

Nominal conductor area	Continuous current-carrying capacity, A (Solid bond)												Fault current carrying capacity for 1 second	
	In Air					In Ground			In Underground ducts					
mm²													Conductor kA	Screen kA
120	303	343	281	297	231	269	271	266	247	248	243	233	11.4	3.0
150	343	388	318	336	259	301	303	298	280	280	276	260	14.2	3.0
185	392	443	364	385	294	339	341	337	315	314	311	294	17.5	3.0
240	462	521	429	454	342	393	393	390	363	360	358	340	22.7	3.0
300	528	593	491	520	387	442	440	440	406	401	402	383	28.4	3.0
400	615	688	572	607	445	504	499	504	465	455	463	437	37.8	3.0
500	714	795	667	708	535	573	565	575	526	511	526	517	47.3	3.0
630	829	919	776	825	614	650	637	656	601	577	606	589	59.6	3.0
800	955	1053	897	955	697	731	711	742	672	640	682	664	75.7	3.0
1000	1077	1182	1018	1083	779	808	780	827	740	697	757	737	94.6	3.1
1200 †	1226	1302	1173	1247	910	905	845	939	807	743	840	856	114	3.5
1200 ‡	1164	1272	1106	1178	837	860	824	886	784	732	809	788	114	3.3

†: Milliken ‡: Compacted

Physical Characteristics

Nominal conductor area	Conductor form	Nominal conductor diameter	Nominal insulation thickness	Nominal diameter over insulation	Nominal screen area	Number & nominal diameter of screen wires	Nominal diameter over wire screen	Nominal overall diameter	Approx. mass	Product code	Maximum pulling tension	Minimum bending radius		Nominal duct diameter	
												During pulling	Set in position		
mm²		mm	mm	mm	mm²	no./mm	mm	mm	kg/100m		kN	mm	mm	mm	mm
120	Compacted	12.8	8.0	29.1	20.4	36/0.85	32.4	37.0	138	XNMA23TYT01	6.0	930	560	63	150
150	Compacted	14.2	8.0	30.5	20.4	36/0.85	34.0	38.8	154	XNMA24TYT01	7.5	970	580	65	150
185	Compacted	15.7	8.0	32.0	20.4	36/0.85	35.5	40.3	168	XNMA25TYT01	9.3	1010	600	65	150
240	Compacted	18.0	8.0	34.3	20.4	36/0.85	37.8	42.8	192	XNMA26TYT01	12.0	1070	640	65	150
300	Compacted	20.1	8.0	36.6	20.4	36/0.85	40.1	45.6	219	XNMA27TYT01	15.0	1140	680	65	150
400	Compacted	23.0	8.0	39.5	20.4	36/0.85	43.0	48.6	255	XNMA28TYT01	20.0	1220	730	80	150
500	Compacted	26.1	8.0	43.6	20.4	36/0.85	47.1	52.9	302	XNMA30TYT01	25.0	1320	790	80	200
630	Compacted	29.9	8.0	47.3	20.4	36/0.85	50.8	56.9	362	XNMA32TYT01	31.5	1420	850	100	200
800	Compacted	34.2	8.0	52.4	20.4	36/0.85	55.9	62.1	434	XNMA33TYT01	40.0	1550	930	100	200
1000	Compacted	38.3	8.0	56.4	21.0	37/0.85	59.9	66.6	518	XNMA34TYT01	50.0	1660	1000	100	200
1200 †	Milliken	41.4	8.0	62.7	23.3	41/0.85	66.2	73.0	617	XNMM82TYT01	60.0	1830	1100	150	250
1200 ‡	Compacted	41.4	8.0	59.6	22.1	39/0.85	63.1	69.9	580	XNMA50TYT01	60.0	1750	1050	100	200

SOLAR POWER

Nexans MV Cable

Single Core Aluminium Conductors

1 Conductor stranded compacted aluminium, semiconductive conductor screen, 19/33 kV TR-XLPE insulated, strippable semiconductive insulation screen, copper wire screened (suitable for 5 kA for 1 sec fault level), PVC (5V-90) sheathed, termite barrier (ECOTERM™) taped, HDPE sheathed, to AS/NZS 1429.1.



5 kA
Screen Fault Level

Electrical Characteristics

Nominal conductor area	Conductor DC resistance at 20 °C	Conductor AC resistance at 50 Hz and 90 °C		Inductive reactance at 50 Hz			Insulation resistance at 20 °C	Conductor to screen capacitance	Charging current per phase	Dielectric loss per phase	Max. dielectric stress	Screen DC resistance at 20 °C	Zero sequence resistance at 20 °C	Zero sequence reactance at 50 Hz
		Trefoil or flat touching	Flat spaced	Trefoil touching	Flat touching	Flat spaced								
mm²	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	MΩ.km	µF/km	A/km	W/km	kV/mm	Ω/km	Ω/km	Ω/km
120	0.253	0.325	0.325	0.128	0.149	0.195	12990	0.171	1.0	77.5	3.7	0.532	0.785	0.0742
150	0.206	0.264	0.264	0.124	0.146	0.191	12120	0.183	1.1	83.1	3.6	0.532	0.738	0.0708
185	0.164	0.211	0.211	0.120	0.142	0.187	11310	0.196	1.2	89.0	3.5	0.532	0.696	0.0672
240	0.125	0.161	0.161	0.115	0.136	0.182	10270	0.216	1.3	98.1	3.4	0.532	0.658	0.0627
300	0.100	0.129	0.129	0.111	0.132	0.178	9400	0.236	1.4	107	3.3	0.533	0.634	0.0587
400	0.0778	0.101	0.101	0.107	0.128	0.173	8530	0.260	1.6	118	3.2	0.531	0.610	0.0547
500	0.0605	0.0793	0.0788	0.104	0.125	0.170	7520	0.295	1.8	134	3.1	0.531	0.593	0.0521
630	0.0469	0.0625	0.0617	0.101	0.121	0.167	6790	0.327	2.0	148	3.0	0.532	0.581	0.0490
800	0.0367	0.0501	0.0491	0.0976	0.118	0.163	6340	0.350	2.1	159	2.9	0.532	0.571	0.0465
1000	0.0291	0.0412	0.0398	0.0949	0.115	0.161	5790	0.383	2.3	174	2.8	0.533	0.565	0.0439
1200 †	0.0247	0.0319	0.0318	0.0954	0.115	0.161	5310	0.418	2.5	190	2.7	0.533	0.558	0.0449
1200 ‡	0.0247	0.0362	0.0346	0.0926	0.112	0.158	5440	0.408	2.4	185	2.8	0.533	0.561	0.0418

Current Ratings

Nominal conductor area	Continuous current-carrying capacity, A (Solid bond)												Fault current carrying capacity for 1 second	
	In Air					In Ground			In Underground ducts					
mm²													Conductor kA	Screen kA
120	301	340	280	296	231	268	268	266	245	244	242	232	11.4	5.0
150	341	384	317	336	259	299	298	297	276	274	274	259	14.2	5.0
185	389	437	362	384	293	336	335	336	310	305	308	293	17.5	5.0
240	458	512	427	453	341	388	384	388	355	347	354	338	22.7	5.0
300	522	580	488	518	385	435	427	438	396	385	397	380	28.4	5.0
400	606	670	569	604	442	495	482	500	450	432	454	434	37.8	5.0
500	701	769	662	703	531	560	540	570	506	481	515	513	47.3	5.0
630	810	882	769	818	607	633	603	649	569	533	586	582	59.6	5.0
800	929	1002	887	944	688	707	667	733	633	586	658	655	75.7	5.0
1000	1044	1118	1004	1070	768	778	727	814	694	634	729	726	94.6	5.0
1200 †	1188	1237	1158	1232	896	872	791	925	753	678	802	842	114	5.0
1200 ‡	1127	1203	1091	1162	824	828	768	872	737	669	780	776	114	5.0

†: Milliken ‡: Compacted

Physical Characteristics

Nominal conductor area	Conductor form	Nominal conductor diameter	Nominal insulation thickness	Nominal diameter over insulation	Nominal screen area	Number & nominal diameter of screen wires	Nominal diameter over wire screen	Nominal overall diameter	Approx. mass	Product code	Maximum pulling tension	Minimum bending radius		Nominal duct diameter	
												During pulling	Set in position		
mm²		mm	mm	mm	mm²	no./mm	mm	mm	kg/100m		kN	mm	mm	mm	mm
120	Compacted	12.8	8.0	29.1	34.0	60/0.85	32.4	37.0	151	XNMA23TUT01	6.0	930	560	63	150
150	Compacted	14.2	8.0	30.5	34.0	60/0.85	34.0	38.8	167	XNMA24TUT11	7.5	970	580	65	150
185	Compacted	15.7	8.0	32.0	34.0	60/0.85	35.5	40.3	181	XNMA25TUT01	9.3	1010	600	65	150
240	Compacted	18.0	8.0	34.3	34.0	60/0.85	37.8	42.8	205	XNMA26TUT01	12.0	1070	640	65	150
300	Compacted	20.1	8.0	36.6	34.0	60/0.85	40.1	45.6	232	XNMA27TUT01	15.0	1140	680	65	150
400	Compacted	23.0	8.0	39.5	34.0	60/0.85	43.0	48.6	268	XNMA28TUT01	20.0	1220	730	80	150
500	Compacted	26.1	8.0	43.6	34.0	60/0.85	47.1	52.9	314	XNMA30TUT01	25.0	1320	790	80	200
630	Compacted	29.9	8.0	47.3	34.0	60/0.85	50.8	56.9	374	XNMA32TUT01	31.5	1420	850	100	200
800	Compacted	34.2	8.0	52.4	34.0	60/0.85	55.9	62.1	447	XNMA33TUT01	40.0	1550	930	100	200
1000	Compacted	38.3	8.0	56.4	34.0	60/0.85	59.9	66.6	530	XNMA34TUT01	50.0	1660	1000	100	200
1200 †	Milliken	41.4	8.0	62.7	34.0	60/0.85	66.2	73.0	627	XNMM82TUT01	60.0	1830	1100	150	250
1200 ‡	Compacted	41.4	8.0	59.6	34.0	60/0.85	63.1	69.9	591	XNMA50TUT01	60.0	1750	1050	100	200

SOLAR POWER

Nexans MV Cable

Single Core Aluminium Conductors

1 Conductor stranded compacted aluminium, semiconductive conductor screen, 19/33 kV TR-XLPE insulated, strippable semiconductive insulation screen, copper wire screened (suitable for 10 kA for 1 sec fault level), PVC (5V-90) sheathed, termite barrier (ECOTERM™) taped, HDPE sheathed, to AS/NZS 1429.1.



10 kA
Screen Fault Level

Electrical Characteristics

Nominal conductor area	Conductor DC resistance at 20 °C	Conductor AC resistance at 50 Hz and 90 °C		Inductive reactance at 50 Hz			Insulation resistance at 20 °C	Conductor to screen capacitance	Charging current per phase	Dielectric loss per phase	Max. dielectric stress	Screen DC resistance at 20 °C	Zero sequence resistance at 20 °C	Zero sequence reactance at 50 Hz
		Trefoil or flat touching	Flat spaced	Trefoil touching	Flat touching	Flat spaced								
mm²	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	MΩ.km	µF/km	A/km	W/km	kV/mm	Ω/km	Ω/km	Ω/km
120	0.253	0.325	0.325	0.130	0.152	0.197	12990	0.171	1.0	77.5	3.7	0.263	0.516	0.0752
150	0.206	0.264	0.264	0.126	0.147	0.193	12120	0.183	1.1	83.1	3.6	0.263	0.469	0.0717
185	0.164	0.211	0.211	0.122	0.143	0.189	11310	0.196	1.2	89.0	3.5	0.264	0.428	0.0682
240	0.125	0.161	0.161	0.117	0.138	0.184	10270	0.216	1.3	98.1	3.4	0.264	0.390	0.0635
300	0.100	0.129	0.129	0.113	0.134	0.179	9400	0.236	1.4	107	3.3	0.264	0.364	0.0595
400	0.0778	0.101	0.101	0.108	0.129	0.175	8530	0.260	1.6	118	3.2	0.263	0.342	0.0555
500	0.0605	0.0793	0.0788	0.105	0.126	0.171	7520	0.295	1.8	134	3.1	0.264	0.325	0.0528
630	0.0469	0.0624	0.0617	0.102	0.122	0.168	6790	0.327	2.0	148	3.0	0.265	0.313	0.0496
800	0.0367	0.0501	0.0491	0.0988	0.119	0.165	6340	0.350	2.1	159	2.9	0.264	0.303	0.0471
1000	0.0291	0.0411	0.0398	0.0958	0.116	0.162	5790	0.383	2.3	174	2.8	0.263	0.295	0.0444
1200 †	0.0247	0.0319	0.0318	0.0962	0.116	0.162	5310	0.418	2.5	190	2.7	0.263	0.288	0.0454
1200 ‡	0.0247	0.0362	0.0346	0.0935	0.113	0.159	5440	0.408	2.4	185	2.8	0.263	0.291	0.0423

Current Ratings

Nominal conductor area	Continuous current-carrying capacity, A (Solid bond)												Fault current carrying capacity for 1 second	
	In Air					In Ground			In Underground ducts					
mm²													Conductor kA	Screen kA
120	300	335	281	297	230	264	262	265	243	239	242	231	11.4	10.2
150	339	377	318	336	258	294	290	296	269	263	269	258	14.2	10.2
185	385	427	363	384	292	330	323	333	299	291	302	291	17.5	10.2
240	450	496	426	452	338	379	366	385	340	327	346	335	22.7	10.2
300	511	558	486	515	381	422	404	433	376	358	386	376	28.4	10.2
400	588	637	564	599	436	475	449	492	421	395	437	427	37.8	10.2
500	676	722	653	694	521	533	496	559	469	434	492	503	47.3	10.2
630	773	817	756	804	593	596	545	633	515	472	549	568	59.6	10.2
800	877	914	867	923	669	658	593	710	565	510	611	635	75.7	10.2
1000	975	1005	976	1040	741	715	635	784	612	544	672	699	94.6	10.2
1200 †	1095	1098	1116	1189	858	788	680	883	645	572	716	803	114	10.2
1200 ‡	1045	1070	1055	1126	813	754	663	836	645	568	715	762	114	10.2

†: Milliken ‡: Compacted

Physical Characteristics

Nominal conductor area	Conductor form	Nominal conductor diameter	Nominal insulation thickness	Nominal diameter over insulation	Nominal screen area	Number & nominal diameter of screen wires	Nominal diameter over wire screen	Nominal overall diameter	Approx. mass	Product code	Maximum pulling tension	Minimum bending radius		Nominal duct diameter	
												During pulling	Set in position		
mm²		mm	mm	mm	mm²	no./mm	mm	mm	kg/100m		kN	mm	mm	mm	mm
120	Compacted	12.8	8.0	29.1	68.7	48/1.35	33.4	38.2	186	XNNA23TYT01	6.0	960	570	65	150
150	Compacted	14.2	8.0	30.5	68.7	48/1.35	35.0	39.8	200	XNNA24TYT01	7.5	1000	600	65	150
185	Compacted	15.7	8.0	32.0	68.7	48/1.35	36.5	41.5	215	XNNA25TYT01	9.3	1040	620	65	150
240	Compacted	18.0	8.0	34.3	68.7	48/1.35	38.8	43.8	238	XNNA26TYT01	12.0	1100	660	65	150
300	Compacted	20.1	8.0	36.6	68.7	48/1.35	41.1	46.6	265	XNNA27TYT01	15.0	1160	700	65	150
400	Compacted	23.0	8.0	39.5	68.7	48/1.35	44.0	49.6	301	XNNA28TYT01	20.0	1240	740	80	150
500	Compacted	26.1	8.0	43.6	68.7	48/1.35	48.1	53.9	348	XNNA30TYT01	25.0	1350	810	80	200
630	Compacted	29.9	8.0	47.3	68.7	48/1.35	51.8	57.9	408	XNNA32TYT01	31.5	1450	870	100	200
800	Compacted	34.2	8.0	52.4	68.7	48/1.35	56.9	63.3	482	XNNA33TYT01	40.0	1580	950	100	200
1000	Compacted	38.3	8.0	56.4	68.7	48/1.35	60.9	67.6	563	XNNA34TYT01	50.0	1690	1010	100	200
1200 †	Milliken	41.4	8.0	62.7	68.7	48/1.35	67.2	74.0	661	XNNM82TYT01	60.0	1850	1110	150	250
1200 ‡	Compacted	41.4	8.0	59.6	68.7	48/1.35	64.1	70.9	625	XNNA50TYT01	60.0	1770	1060	100	250

SOLAR POWER

Nexans MV Cable

Single Core Aluminium Conductors

1 Conductor stranded compacted aluminium, semiconductive conductor screen, 19/33 kV TR-XLPE insulated, strippable semiconductive insulation screen, copper wire screened (suitable for 3 kA for 1 sec fault level), swellable water blocking taped, PVC (5V-90) sheathed, termite barrier (ECOTERM™) taped, HDPE sheathed, to AS/NZS 1429.1.



Waterblocking Taped

3 kA
Screen Fault Level

Electrical Characteristics

Nominal conductor area	Conductor DC resistance at 20 °C	Conductor AC resistance at 50 Hz and 90 °C		Inductive reactance at 50 Hz			Insulation resistance at 20 °C	Conductor to screen capacitance	Charging current per phase	Dielectric loss per phase	Max. dielectric stress	Screen DC resistance at 20 °C	Zero sequence resistance at 20 °C	Zero sequence reactance at 50 Hz
		Trefoil or flat touching	Flat spaced	Trefoil touching	Flat touching	Flat spaced								
mm²	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	MΩ.km	µF/km	A/km	W/km	kV/mm	Ω/km	Ω/km	Ω/km
120	0.253	0.325	0.325	0.128	0.150	0.196	12990	0.171	1.0	77.5	3.7	0.887	1.14	0.0742
150	0.206	0.264	0.264	0.125	0.146	0.192	12120	0.183	1.1	83.1	3.6	0.888	1.09	0.0708
185	0.164	0.211	0.211	0.121	0.142	0.188	11310	0.196	1.2	89.0	3.5	0.885	1.05	0.0672
240	0.125	0.161	0.161	0.116	0.137	0.183	10270	0.216	1.3	98.1	3.4	0.887	1.01	0.0627
300	0.100	0.129	0.129	0.112	0.132	0.178	9400	0.236	1.4	107	3.3	0.885	0.986	0.0587
400	0.0778	0.101	0.101	0.107	0.128	0.174	8530	0.260	1.6	118	3.2	0.887	0.966	0.0547
500	0.0605	0.0793	0.0788	0.104	0.125	0.170	7520	0.295	1.8	134	3.1	0.886	0.948	0.0521
630	0.0469	0.0625	0.0617	0.101	0.121	0.167	6790	0.327	2.0	148	3.0	0.889	0.937	0.0490
800	0.0367	0.0501	0.0491	0.0975	0.118	0.163	6340	0.350	2.1	159	2.9	0.887	0.925	0.0465
1000	0.0291	0.0412	0.0398	0.0949	0.115	0.161	5790	0.383	2.3	174	2.8	0.864	0.896	0.0439
1200 †	0.0247	0.0319	0.0319	0.0954	0.115	0.161	5310	0.418	2.5	190	2.7	0.780	0.805	0.0449
1200 ‡	0.0247	0.0362	0.0346	0.0926	0.112	0.158	5440	0.408	2.4	185	2.8	0.820	0.848	0.0418

Current Ratings

Nominal conductor area	Continuous current-carrying capacity, A (Solid bond)												Fault current carrying capacity for 1 second	
	In Air					In Ground			In Underground ducts					
mm²													Conductor kA	Screen kA
120	303	342	281	297	231	269	271	266	247	248	243	233	11.4	3.0
150	343	387	318	336	259	301	303	298	280	280	276	260	14.2	3.0
185	392	442	364	385	294	339	341	337	315	314	311	294	17.5	3.0
240	462	520	429	454	342	392	392	390	362	359	358	340	22.7	3.0
300	528	592	491	520	387	441	440	440	406	400	402	383	28.4	3.0
400	615	688	572	607	445	504	499	504	465	455	463	437	37.8	3.0
500	714	794	667	708	535	573	564	575	526	511	526	517	47.3	3.0
630	829	918	776	825	613	650	637	656	601	577	606	589	59.6	3.0
800	955	1053	897	955	697	731	711	743	673	640	682	664	75.7	3.0
1000	1077	1183	1018	1084	779	808	780	827	740	697	757	737	94.6	3.1
1200 †	1226	1302	1173	1248	910	905	845	939	807	743	840	856	114	3.5
1200 ‡	1164	1273	1106	1178	837	860	824	886	784	732	809	788	114	3.3

†: Milliken ‡: Compacted

Physical Characteristics

Nominal conductor area	Conductor form	Nominal conductor diameter	Nominal insulation thickness	Nominal diameter over insulation	Nominal screen area	Number & nominal diameter of screen wires	Nominal diameter over wire screen	Nominal overall diameter	Approx. mass	Product code	Maximum pulling tension	Minimum bending radius		Nominal duct diameter	
												During pulling	Set in position		
mm²		mm	mm	mm	mm²	no./mm	mm	mm	kg/100m		kN	mm	mm	mm	mm
120	Compacted	12.8	8.0	29.1	20.4	36/0.85	32.4	37.4	139	XNMA23EMT01	6.0	930	560	63	150
150	Compacted	14.2	8.0	30.5	20.4	36/0.85	34.0	39.2	154	XNMA24EMT01	7.5	980	590	65	150
185	Compacted	15.7	8.0	32.0	20.4	36/0.85	35.5	40.7	168	XNMA25EMT01	9.3	1020	610	65	150
240	Compacted	18.0	8.0	34.3	20.4	36/0.85	37.8	43.2	193	XNMA26EMT01	12.0	1080	650	65	150
300	Compacted	20.1	8.0	36.6	20.4	36/0.85	40.1	45.7	219	XNMA27EMT01	15.0	1140	690	65	150
400	Compacted	23.0	8.0	39.5	20.4	36/0.85	43.0	48.8	255	XNMA28EMT01	20.0	1220	730	80	150
500	Compacted	26.1	8.0	43.6	20.4	36/0.85	47.1	53.1	302	XNMA30EMT01	25.0	1330	800	80	200
630	Compacted	29.9	8.0	47.3	20.4	36/0.85	50.8	57.0	361	XNMA32EMT01	31.5	1430	860	100	200
800	Compacted	34.2	8.0	52.4	20.4	36/0.85	55.9	62.1	434	XNMA33EMT01	40.0	1550	930	100	200
1000	Compacted	38.3	8.0	56.4	21.0	37/0.85	59.9	66.6	517	XNMA34EMT01	50.0	1660	1000	100	200
1200 †	Milliken	41.4	8.0	62.7	23.3	41/0.85	66.2	73.0	617	XNMM82EMT01	60.0	1830	1100	150	250
1200 ‡	Compacted	41.4	8.0	59.6	22.1	39/0.85	63.1	69.9	580	XNMA50EMT01	60.0	1750	1050	100	200

SOLAR POWER

Nexans MV Cable



Single Core Aluminium Conductors

1 Conductor stranded compacted aluminium, semiconductive conductor screen, 19/33 kV TR-XLPE insulated, strippable semiconductive insulation screen, copper wire screened (suitable for 5 kA for 1 sec fault level), swellable water blocking taped, PVC (5V-90) sheathed, termite barrier (ECOTERM™) taped, HDPE sheathed, to AS/NZS 1429.1.

Waterblocking Taped

5 kA
Screen Fault Level

Electrical Characteristics

Nominal conductor area	Conductor DC resistance at 20 °C	Conductor AC resistance at 50 Hz and 90 °C		Inductive reactance at 50 Hz			Insulation resistance at 20 °C	Conductor to screen capacitance	Charging current per phase	Dielectric loss per phase	Max. dielectric stress	Screen DC resistance at 20 °C	Zero sequence resistance at 20 °C	Zero sequence reactance at 50 Hz
		Trefoil or flat touching	Flat spaced	Trefoil touching	Flat touching	Flat spaced								
mm²	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	MΩ.km	µF/km	A/km	W/km	kV/mm	Ω/km	Ω/km	Ω/km
120	0.253	0.325	0.325	0.128	0.150	0.195	12990	0.171	1.0	77.5	3.7	0.532	0.785	0.0742
150	0.206	0.264	0.264	0.124	0.146	0.192	12120	0.183	1.1	83.1	3.6	0.532	0.738	0.0708
185	0.164	0.211	0.211	0.121	0.142	0.187	11310	0.196	1.2	89.0	3.5	0.532	0.696	0.0672
240	0.125	0.161	0.161	0.116	0.137	0.182	10270	0.216	1.3	98.1	3.4	0.532	0.658	0.0627
300	0.100	0.129	0.129	0.111	0.132	0.178	9400	0.236	1.4	107	3.3	0.533	0.634	0.0587
400	0.0778	0.101	0.101	0.107	0.128	0.173	8530	0.260	1.6	118	3.2	0.531	0.610	0.0547
500	0.0605	0.0793	0.0788	0.104	0.124	0.170	7520	0.295	1.8	134	3.1	0.531	0.593	0.0521
630	0.0469	0.0625	0.0617	0.101	0.121	0.166	6790	0.327	2.0	148	3.0	0.532	0.581	0.0490
800	0.0367	0.0501	0.0491	0.0975	0.118	0.163	6340	0.350	2.1	159	2.9	0.532	0.571	0.0465
1000	0.0291	0.0412	0.0398	0.0949	0.115	0.161	5790	0.383	2.3	174	2.8	0.533	0.565	0.0439
1200 †	0.0247	0.0319	0.0319	0.0954	0.115	0.161	5310	0.418	2.5	190	2.7	0.533	0.558	0.0449
1200 ‡	0.0247	0.0362	0.0346	0.0926	0.112	0.158	5440	0.408	2.4	185	2.8	0.533	0.561	0.0418

Current Ratings

Nominal conductor area	Continuous current-carrying capacity, A (Solid bond)												Fault current carrying capacity for 1 second	
	In Air					In Ground			In Underground ducts					
mm²													Conductor kA	Screen kA
120	301	340	280	296	231	267	268	266	245	244	242	232	11.4	5.0
150	341	383	317	335	259	299	298	297	276	274	274	259	14.2	5.0
185	389	437	362	384	293	336	335	335	310	305	308	293	17.5	5.0
240	457	511	427	453	341	388	383	388	355	347	354	338	22.7	5.0
300	522	580	488	518	385	435	427	438	396	385	397	380	28.4	5.0
400	606	670	569	604	442	495	482	500	450	432	454	434	37.8	5.0
500	701	769	662	703	531	560	540	570	506	481	515	513	47.3	5.0
630	810	882	769	818	607	633	603	649	569	533	586	582	59.6	5.0
800	929	1002	887	944	689	707	667	733	633	586	658	655	75.7	5.0
1000	1044	1118	1004	1070	768	778	727	814	694	634	729	726	94.6	5.0
1200 †	1189	1237	1158	1232	896	872	791	925	753	678	802	842	114	5.0
1200 ‡	1127	1203	1091	1163	824	828	768	872	737	669	780	776	114	5.0

†: Milliken ‡: Compacted

Physical Characteristics

Nominal conductor area	Conductor form	Nominal conductor diameter	Nominal insulation thickness	Nominal diameter over insulation	Nominal screen area	Number & nominal diameter of screen wires	Nominal diameter over wire screen	Nominal overall diameter	Approx. mass	Product code	Maximum pulling tension	Minimum bending radius		Nominal duct diameter	
												During pulling	Set in position		
mm²		mm	mm	mm	mm²	no./mm	mm	mm	kg/100m		kN	mm	mm	mm	mm
120	Compacted	12.8	8.0	29.1	34.0	60/0.85	32.4	37.2	152	XNMA23TXT01	6.0	930	560	63	150
150	Compacted	14.2	8.0	30.5	34.0	60/0.85	34.0	39.0	167	XNMA24TXT01	7.5	970	580	65	150
185	Compacted	15.7	8.0	32.0	34.0	60/0.85	35.5	40.5	181	XNMA25TXT01	9.3	1010	610	65	150
240	Compacted	18.0	8.0	34.3	34.0	60/0.85	37.8	43.0	205	XNMA26TXT01	12.0	1080	650	65	150
300	Compacted	20.1	8.0	36.6	34.0	60/0.85	40.1	45.5	232	XNMA27TXT01	15.0	1140	680	65	150
400	Compacted	23.0	8.0	39.5	34.0	60/0.85	43.0	48.6	268	XNMA28TXT01	20.0	1210	730	80	150
500	Compacted	26.1	8.0	43.6	34.0	60/0.85	47.1	52.9	314	XNMA30TXT01	25.0	1320	790	80	200
630	Compacted	29.9	8.0	47.3	34.0	60/0.85	50.8	56.8	374	XNMA32TXT01	31.5	1420	850	100	200
800	Compacted	34.2	8.0	52.4	34.0	60/0.85	55.9	62.1	446	XNMA33TXT01	40.0	1550	930	100	200
1000	Compacted	38.3	8.0	56.4	34.0	60/0.85	59.9	66.6	529	XNMA34TXT01	50.0	1660	1000	100	200
1200 †	Milliken	41.4	8.0	62.7	34.0	60/0.85	66.2	73.0	627	XNMM82TXT01	60.0	1830	1100	150	250
1200 ‡	Compacted	41.4	8.0	59.6	34.0	60/0.85	63.1	69.9	591	XNMA50TXT01	60.0	1750	1050	100	200

SOLAR POWER

Nexans MV Cable

Single Core Aluminium Conductors

1 Conductor stranded compacted aluminium, semiconductive conductor screen, 19/33 kV TR-XLPE insulated, strippable semiconductive insulation screen, copper wire screened (suitable for 10 kA for 1 sec fault level), swellable water blocking taped, PVC (5V-90) sheathed, termite barrier (ECOTERM™) taped, HDPE sheathed, to AS/NZS 1429.1.



Waterblocking Taped

10 kA
Screen Fault Level

Electrical Characteristics

Nominal conductor area	Conductor DC resistance at 20 °C	Conductor AC resistance at 50 Hz and 90 °C		Inductive reactance at 50 Hz			Insulation resistance at 20 °C	Conductor to screen capacitance	Charging current per phase	Dielectric loss per phase	Max. dielectric stress	Screen DC resistance at 20 °C	Zero sequence resistance at 20 °C	Zero sequence reactance at 50 Hz
		Trefoil or flat touching	Flat spaced	Trefoil touching	Flat touching	Flat spaced								
mm²	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	MΩ.km	µF/km	A/km	W/km	kV/mm	Ω/km	Ω/km	Ω/km
120	0.253	0.325	0.325	0.130	0.152	0.198	12990	0.171	1.0	77.5	3.7	0.263	0.516	0.0752
150	0.206	0.264	0.264	0.126	0.148	0.194	12120	0.183	1.1	83.1	3.6	0.263	0.469	0.0717
185	0.164	0.211	0.211	0.123	0.144	0.190	11310	0.196	1.2	89.0	3.5	0.264	0.428	0.0682
240	0.125	0.161	0.161	0.117	0.138	0.184	10270	0.216	1.3	98.1	3.4	0.264	0.390	0.0635
300	0.100	0.129	0.129	0.113	0.134	0.180	9400	0.236	1.4	107	3.3	0.264	0.364	0.0595
400	0.0778	0.101	0.101	0.109	0.129	0.175	8530	0.260	1.6	118	3.2	0.263	0.342	0.0555
500	0.0605	0.0793	0.0788	0.105	0.126	0.172	7520	0.295	1.8	134	3.1	0.264	0.325	0.0528
630	0.0469	0.0624	0.0617	0.102	0.122	0.168	6790	0.327	2.0	148	3.0	0.265	0.313	0.0496
800	0.0367	0.0501	0.0491	0.0987	0.119	0.165	6340	0.350	2.1	159	2.9	0.264	0.303	0.0471
1000	0.0291	0.0411	0.0398	0.0958	0.116	0.161	5790	0.383	2.3	174	2.8	0.263	0.295	0.0444
1200 †	0.0247	0.0319	0.0318	0.0962	0.116	0.162	5310	0.418	2.5	190	2.7	0.263	0.288	0.0454
1200 ‡	0.0247	0.0362	0.0346	0.0935	0.113	0.159	5440	0.408	2.4	185	2.8	0.263	0.291	0.0423

Current Ratings

Nominal conductor area	Continuous current-carrying capacity, A (Solid bond)												Fault current carrying capacity for 1 second	
	In Air					In Ground			In Underground ducts					
mm²													Conductor kA	Screen kA
120	300	335	281	297	230	264	262	265	243	239	242	231	11.4	10.2
150	338	376	318	336	258	294	290	296	268	263	269	258	14.2	10.2
185	385	426	363	384	292	330	322	333	299	290	302	291	17.5	10.2
240	450	495	426	451	338	378	366	385	340	326	346	335	22.7	10.2
300	511	557	486	515	381	422	404	432	376	358	386	376	28.4	10.2
400	588	636	564	599	436	475	449	492	420	395	436	427	37.8	10.2
500	675	722	653	694	521	533	496	559	469	434	492	502	47.3	10.2
630	773	816	755	804	593	595	545	633	515	472	549	568	59.6	10.2
800	877	914	867	923	669	658	593	710	565	510	611	635	75.7	10.2
1000	975	1005	976	1041	741	715	635	784	612	544	672	699	94.6	10.2
1200 †	1095	1098	1116	1189	858	788	680	883	646	572	716	803	114	10.2
1200 ‡	1045	1070	1055	1126	813	754	664	836	645	568	715	762	114	10.2

†: Milliken ‡: Compacted

Physical Characteristics

Nominal conductor area	Conductor form	Nominal conductor diameter	Nominal insulation thickness	Nominal diameter over insulation	Nominal screen area	Number & nominal diameter of screen wires	Nominal diameter over wire screen	Nominal overall diameter	Approx. mass	Product code	Maximum pulling tension	Minimum bending radius		Nominal duct diameter	
												During pulling	Set in position		
mm²		mm	mm	mm	mm²	no./mm	mm	mm	kg/100m		kN	mm	mm	mm	mm
120	Compacted	12.8	8.0	29.1	68.7	48/1.35	33.4	38.6	187	XNNA23EMT01	6.0	960	580	65	150
150	Compacted	14.2	8.0	30.5	68.7	48/1.35	35.0	40.2	200	XNNA24EMT01	7.5	1000	600	65	150
185	Compacted	15.7	8.0	32.0	68.7	48/1.35	36.5	41.9	216	XNNA25EMT01	9.3	1050	630	65	150
240	Compacted	18.0	8.0	34.3	68.7	48/1.35	38.8	44.2	239	XNNA26EMT01	12.0	1100	660	65	150
300	Compacted	20.1	8.0	36.6	68.7	48/1.35	41.1	46.7	265	XNNA27EMT01	15.0	1170	700	65	150
400	Compacted	23.0	8.0	39.5	68.7	48/1.35	44.0	49.8	301	XNNA28EMT01	20.0	1240	750	80	150
500	Compacted	26.1	8.0	43.6	68.7	48/1.35	48.1	54.1	348	XNNA30EMT01	25.0	1350	810	80	200
630	Compacted	29.9	8.0	47.3	68.7	48/1.35	51.8	58.0	408	XNNA32EMT01	31.5	1450	870	100	200
800	Compacted	34.2	8.0	52.4	68.7	48/1.35	56.9	63.3	482	XNNA33EMT01	40.0	1580	950	100	200
1000	Compacted	38.3	8.0	56.4	68.7	48/1.35	60.9	67.6	563	XNNA34EMT01	50.0	1690	1010	100	200
1200 †	Milliken	41.4	8.0	62.7	68.7	48/1.35	67.2	74.0	660	XNNM82EMT01	60.0	1850	1110	150	250
1200 ‡	Compacted	41.4	8.0	59.6	68.7	48/1.35	64.1	70.9	624	XNNA50EMT01	60.0	1770	1060	100	250

SOLAR POWER

Nexans MV Cable

Three Core Aluminium Conductors

3 Conductors stranded compacted aluminium, semiconductive conductor screen, 19/33 kV TR-XLPE insulated, strippable semiconductive insulation screen, individually helical copper wire screened (suitable for minimum 5 kA for 1 sec fault level), laid up with non-hygroscopic fillers, PVC (5V-90) sheathed, termite barrier (ECOTERM™) taped, HDPE sheathed, to AS/NZS 1429.1.



5 kA
Screen Fault Level

Electrical Characteristics

Nominal conductor area	Conductor DC resistance at 20 °C	Conductor AC resistance at 50 Hz and 90 °C	Inductive reactance at 50 Hz	Insulation resistance at 20 °C	Conductor to screen capacitance	Charging current per phase	Dielectric loss per phase	Max. dielectric stress	Screen DC resistance at 20 °C	Zero sequence resistance at 20 °C	Zero sequence reactance at 50 Hz
mm²	Ω/km	Ω/km	Ω/km	MΩ.km	μF/km	A/km	W/km	kV/mm	Ω/km	Ω/km	Ω/km
120	0.253	0.325	0.122	12990	0.171	1.0	77.5	3.7	0.532	1.85	0.0742
150	0.206	0.264	0.118	12120	0.183	1.1	83.1	3.6	0.507	1.73	0.0708
185	0.164	0.211	0.114	11310	0.196	1.2	89.0	3.5	0.483	1.61	0.0672
240	0.125	0.161	0.110	10270	0.216	1.3	98.1	3.4	0.463	1.51	0.0627
300	0.100	0.129	0.106	9400	0.236	1.4	107	3.3	0.425	1.38	0.0587
400	0.0778	0.101	0.101	8530	0.260	1.6	118	3.2	0.394	1.26	0.0547
500	0.0617	0.0810	0.0987	7520	0.295	1.8	134	3.1	0.367	1.16	0.0521

Current Ratings

Nominal conductor area	Continuous current-carrying capacity, A					Fault current carrying capacity for 1 second	
	In Air			In Ground			
mm²						Conductor kA	Screen kA
120	274	294	225	265	229	11.4	5.0
150	309	333	253	297	256	14.2	5.3
185	354	381	287	336	289	17.5	5.6
240	416	450	334	390	335	22.7	5.8
300	476	515	379	441	378	28.4	6.3
400	554	601	455	505	448	37.8	6.8
500	639	694	519	574	508	47.3	7.3

Physical Characteristics

Nominal conductor area	Conductor form	Nominal conductor diameter	Nominal insulation thickness	Nominal diameter over insulation	Nominal screen area on each core	Number & nominal diameter of screen wires	Nominal diameter over wire screen	Nominal overall diameter	Approx. mass	Product code	Maximum pulling tension	Minimum bending radius		Nominal duct diameter
												During pulling	Set in position	
mm²		mm	mm	mm	mm²	no./mm	mm	mm	kg/100m		kN	mm	mm	mm
120	Compacted	12.8	8.0	29.1	11.3	20/0.85	32.4	77.5	453	XNMA23TUT03	18.0	1940	1160	150
150	Compacted	14.2	8.0	30.5	11.9	21/0.85	34.0	81.2	507	XNMA24TUT03	22.5	2030	1220	150
185	Compacted	15.7	8.0	32.0	12.5	22/0.85	35.5	84.6	553	XNMA25TUT03	27.8	2120	1270	150
240	Compacted	18.0	8.0	34.3	13.1	23/0.85	37.8	90.0	639	XNMA26TUT03	36.0	2250	1350	150
300	Compacted	20.1	8.0	36.6	14.2	25/0.85	40.1	95.3	736	XNMA27TUT03	45.0	2380	1430	150
400	Compacted	23.0	8.0	39.5	15.3	27/0.85	43.0	102.1	862	XNMA28TUT03	60.0	2550	1530	200
500	Compacted	26.1	8.0	43.6	16.5	29/0.85	47.1	111.3	1029	XNMA30TUT03	75.0	2780	1670	200

Nexans Power Accessories

Nexans Training

All training courses are bespoke and can be adapted to your specific requirements.



Our training centres are fully equipped to provide training for jointers and engineers on all aspects of MV & LHV cable accessories.

Courses cover various cable constructions, cable preparation plus the installation of heat-shrink/cold-shrink and slip-on terminations, separable connectors and joints, including our Underground Junction Chamber.

Where applicable, products installed by our attendees are tested for AC withstand and partial discharge. Upon successful completion of the test, the candidate will be presented with a certificate of competency.

Nexans Power Accessories is fully committed to raising the standards throughout the different countries where we are present for cable accessory installation.

Program up to 72.5 kV

All our different training modules consist of 3 different parts:

Risk - Human Error

Nexans maintains the highest standards on quality and performance for its cables and accessories to ensure the best possible service lifetime of our customer's network.

All our products are subject to routine tests, like AC-withstand and partial discharge, prior to leaving our plants. We understand the importance of giving our customers a stable and infallible product that will last for decades. We make sure that our products can live up to those expectations.

When correctly installed the service lifetime of our accessories can go up to 50 years. Some of the EUROMOLD accessories launched 40 years ago are still on catalogue, and well sold. Most of these products being recognised as world references in terms of quality, technicity and durability.

Risk Reduction

To mitigate the risk of human error during the installation of any accessory, it is important our customers have qualified technicians working on their network.

It is critical that those technicians can provide the right credentials showing their competency in installing cable accessories.

Nexans Power Accessories is able to provide high standard competency installation courses at our training centres or on customer's site where applicable.

The weakest link

Yet, the weakest link in the chain exists where the accessory will meet the cable, installed by human interface. So it is important that the installation is performed with great professionality, knowledge and accuracy, respecting the rules of good craftsmanship.

Such robust and infallible installation skills can only be accomplished by well trained and certified technicians at our facilities. We assure that the trainee will benefit highly from our course modules.

Repair and other claims

The quality lies 100% within the skillset of the operator on site. Poor workmanship will cost you 1000's $'s in loss of revenue, time and cost to repair and other direct and indirect claims from your customer(s).

That's where our training facilities come in to place. With comprehensive training to help reduce the potential for failures to the minimum.

THEORETICAL TRAINING

To explain the why and how of the function of each component of the accessory.

PRACTICAL TRAINING

To instruct how to prepare your cable and install the accessory correctly.

EXAMINATION

To verify objectively the workmanship of the trainee.

SOLAR POWER

Nexans
Power Accessories

Nexans offer a range of LV, MV & LHV cable accessories with over 40 years experience supplying high quality terminations, joints, clamps and connectors to Power Utilities, OEM's, Contractors, Renewable Energy, Infrastructure, Data Centre and Resources Markets.

Connectors



EPDM Rubber

From 10 kV to 72 kV -
25 mm² to 1200 mm²

Joints



Heatshrink - Coldshrink

From LV to 72 kV -
1.5 mm² to 1200 mm²

Terminations



Heatshrink - Coldshrink - Slip On

From 10 kV to 72 kV -
25 mm² to 1200 mm²

GIS Inner Cone Connectors



Size 2# - Size 3#

33 kV- 42 kV
50 mm² - 1000 mm²

MV Surge Arrestors



Interface "C"

11 kV- 42 kV
Ur (kV) 6 to 51

Cable Cleats



316 Stainless Steel

From LV to 72 kV
Single/Tri 13 mm - 130 mm

Cable Clamps



Black Polyamide

From LV to 72 kV
Single/Tri 15 mm - 170 mm

Cable Leads



Testing options - Megger - HiPot - Partial Discharge

From LV to 72 kV -
1.5 mm² to 1200 mm²

Compression Lugs



Tinned Copper

Single & Dual Palm for Class 5
Cu Flex 240 mm² - 500 mm²

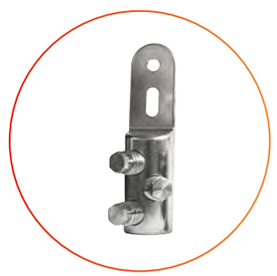
Mechanical Links



Mechanical Shear Off

From LV to 52 kV -
1.5 mm² to 1200 mm²

Mechanical Lugs



Mechanical Shear Off

From LV to 52 kV -
1.5 mm² to 1200 mm²

SOLAR POWER

Power Accessories
Value Add Solutions

We also offer custom cable leads, cable preparation tooling, testing, technical publications on the theory and installation of accessories as well as product awareness workshops and certified training on our products.

Smart Cable Guard

Medium-voltage cable grids are the front line in delivering electricity to the end user. We are constantly asking these, often aging, grids to do more: carry higher volumes, last longer and be more flexible.

Smart Cable Guard is a proven sensor-based digital monitoring platform that lets you know exactly what is going on with your feeder cables at any time. Smart Cable Guard creates a digital twin of each monitored feeder cable and exchanges data and information instantly. These real-time insights support data-driven decision making in operations, maintenance, asset management and grid strategy.

Visit the website http://www.dnv.com/smartcableguard and find out how Smart Cable Guard is helping our customers to make smarter decisions about their future grid investments.



- Monitors and analyses the status of your feeder cables 24/7
- Detects faults (including self-healing breakdowns) and weak spots
- Pinpoints faults/weak spots to within 1% of feeder cable length
- Reduces number and length of power outages
- Minimizes downtime for repairs and maintenance
- Ready to be integrated via an API in your own monitoring and control systems, and asset management system or software



MV Cable Preparation Tooling

Nexans can provide expert advice on selecting the right tools for your needs. As specialists in the field, we understand the cable preparation and fixing solutions required by jointers and engineers, allowing us to assist you in choosing the correct tooling.

In addition to individual tools, Nexans offers the new MV Professional Jointers tool kit. This kit includes a curated selection of tools used by our jointer trainers, supplied in a durable black utility hard case with high-density foam cut-outs to protect the tools, ensuring longevity.

UJC-S/D

Underground Junction Chamber

AUSTRALIAN MADE

Up to 42 kV - 1250 A

APPLICATION: For onshore renewable power parks, the underground junction chamber will be used as a connecting point for cable-jointing and branching applications. Designed and manufactured in Australia, the UJC is available in single and dual height.

TECHNICAL CHARACTERISTICS:

- Burial type 316 stainless steel housing.
- Robust design with IP68 degree of protection (IEC 60529/AS 60529).
- Suitable for voltages up to 42 kV, 1250 Amps
- Suitable for cables up to 1200 mm^2

BENEFITS :

- Reduction of land footprint.
- Joining/branching cables with different cross-sections.
- High reliability of installation.
- Good test and demarcation point.
- Caters for installation of monitoring equipment.

Patent pending
PCT/IB2024/000263





ONJC-S

Onshore Junction Cabinet

Up to 42 kV
1250 A

APPLICATION: For onshore renewable power parks, the onshore junction cabinet will be used as a disconnecting point for branching between grid and application.

TECHNICAL CHARACTERISTICS:

- Pedestal type powder coated AISI 304 stainless steel housing.
- Robust design with IP43 degree of protection (IEC60529/EN62262 ed1:2002-02).
- RAL 7037 coolcoat UV resistant coating.

BENEFITS :

- The cabinet design is specifically suitable to be installed in outside conditions.
- High accessibility for ease of installation.
- Ideal test and demarcation point.
- Time saving on installation and down time.
- Reducing cost of installation.
- Reduction of footprint.

Technical Considerations

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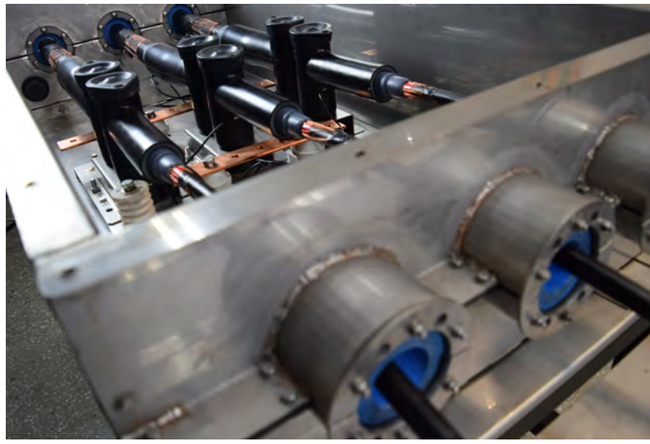
Extra Long Cable Length

Long-run MV cable circuits on wind farms traditionally required the use of inline cable joints. MV collector cables on wind farms are subjected to varying wind and load conditions, imposing significant performance demands on accessories. In the past, these conditions have led to failures due to electrical breakdown of cable joints under extreme thermal stress on wind farms. The most reliable method to eliminate MV joint failure is to eliminate the need for joints altogether by using long-run single-core cables. Traditionally, the use of three-core cables has increased the risk of failure due to limitations in drum lengths and the necessity for multiple joints on extended trench runs.

Alternatively, long runs of single-core cables have been considered the ideal solution. **Nexans has taken the initiative to develop the necessary manufacturing and testing capabilities to produce these extra-long MV cable lengths.** The relatively small diameter of single-core cables ensures that drum diameter does not limit drum length. Refer to the table below for maximum drum lengths of cable for each common conductor size, along with associated drum size and weight. Furthermore, reliability and cost are optimized when long-length single-core cables are installed in trefoil configuration with the Nexans Turnkey Solution.

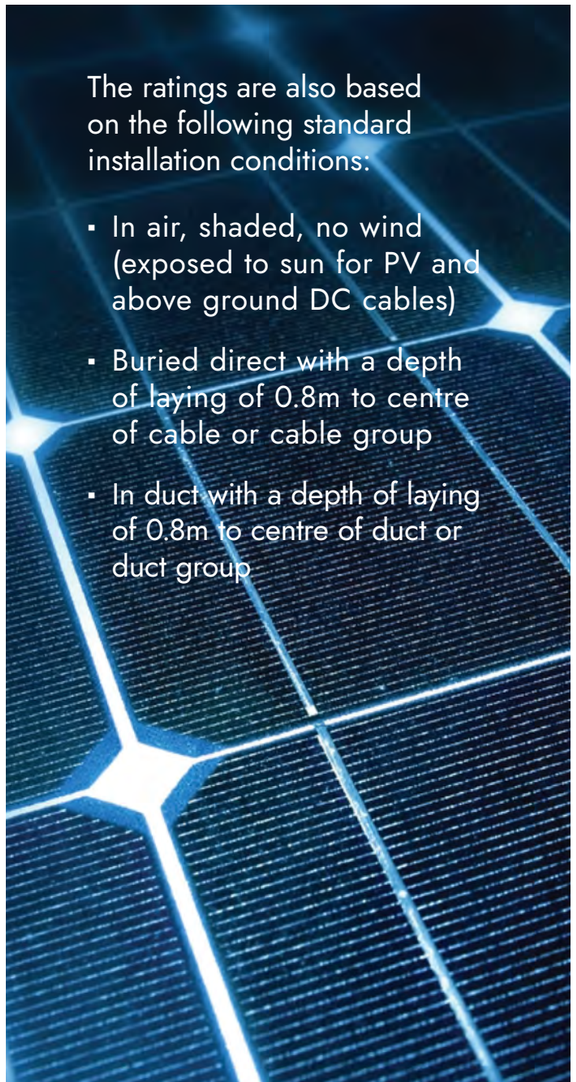
1C 33 kV Cable maxium drum lengths and drum size			3C 33 kV Cable maxium drum lengths and drum size	
Conductor size mm^2	Max. drum length metres	Cable drum size & weight	Max. drum length metres	Cable drum size & weight
300	4,000	3.3m dia x 2.2m wide x 12.7 tonne	1,400	4.1m dia x 2.2m wide x 12.7 tonne
400	3,800	3.3m dia x 2.2m wide x 13.4 tonne	1,300	4.1m dia x 2.2m wide x 14.8 tonne
500	3,500	3.3m dia x 2.2m wide x 14.2 tonne	1,050	4.1m dia x 2.2m wide x 14.2 tonne
630	3,200	3.3m dia x 2.2m wide x 15 tonne	-	-
800	2,800	3.3m dia x 2.2m wide x 15.2 tonne	-	-
1,000	2,300	3.3m dia x 2.2m wide x 15 tonne	-	-
1,200	2,000	3.3m dia x 2.2m wide x 14.8 tonne	-	-

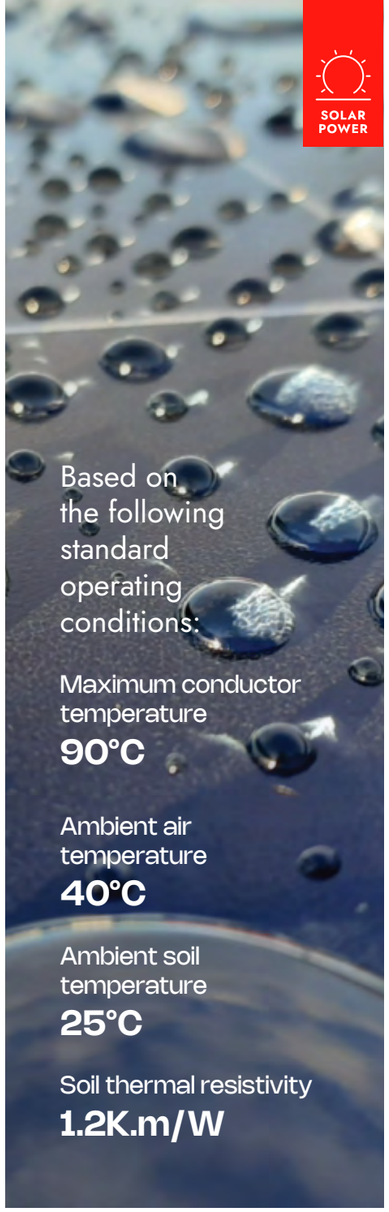
In exceptional circumstances where cable jointing is unavoidable Nexans recommends the use of the UJC (Underground Junction Chamber), a fully sealed underground joint enclosure designed for inline cable jointing and tying between trunk cable runs and branch circuits.



Continuous Current Ratings

The continuous current ratings given in this brochure have been calculated in accordance with the International Electrotechnical Commission Publication IEC 60287 – "Electric Cables – Calculations of the Current Rating".





Single-core cables are installed in configurations specified in current rating tables, with screens (MV cables only) bonded to earth at both ends.

Since large-scale solar farms are often located in remote regions of Australia, **local conditions can vary significantly from these standard conditions.** In such cases, cable ratings may need adjustment according to local conditions.

A range of established derating factors is published in various documents, including the Nexans HV Catalogue, to provide assistance. It is crucial to accurately determine soil thermal resistivity, as this factor has the most significant impact on underground cable ratings.



Nexans recommend that appropriate site soil surveys are done to determine the ground properties at the installation.

Nexans can assist in selecting appropriate sites and interpreting soil "dry out" curves essential for accurately determining cable current ratings. The selection of thermally stable backfill materials plays a crucial role in maximising underground cable current-carrying capabilities. Additionally, Nexans can assist to provide thermal modeling studies of complex underground cable systems, including multiple parallel runs utilising Finite Element Methods (FEM). This ensures the designed cable system throughput meets guaranteed performance.

While it's typical to design cable systems for the continuous rated load of a generating plant, significant gains in cable ratings can be achieved by considering varying loads due to the long thermal time constant of underground cables. This is particularly relevant for solar farms, where daily load cycles can increase ratings by up to 10%. Nexans can identify opportunities to achieve these gains.

Other factors affecting cable current ratings include the method of screen bonding. Ratings in this brochure are provided for single-core MV cables with copper wire screens solidly bonded to earth at both ends. Solid bonding reduces the current rating of single-core cables due to heating effects from circulating currents caused by induced screen voltage. However, its impact is minimal in close configurations like trefoil or flat touching arrangements. Conversely, cables in spaced formations such as flat spaced configurations can see significant reductions, up to 40%, depending on cable spacing, screen and conductor size.

For installations requiring spaced cable formations, special bonding methods like single point or cross bonding may be necessary to eliminate circulating currents. This is typically considered for systems using large cables (e.g., 66 kV and above), large screen sizes, or wide cable spacings.

Screen sizes of 3 kA, 5 kA, and 10 kA for one second are discussed in this brochure, with smaller screen sizes having a lesser impact on cable ratings, thus offering limited benefit from special bonding methods. While current ratings for single-core cables using special bonding techniques can be provided, they are typically not considered for MV cables (33 kV and below). Please consult Nexans for specific requirements.



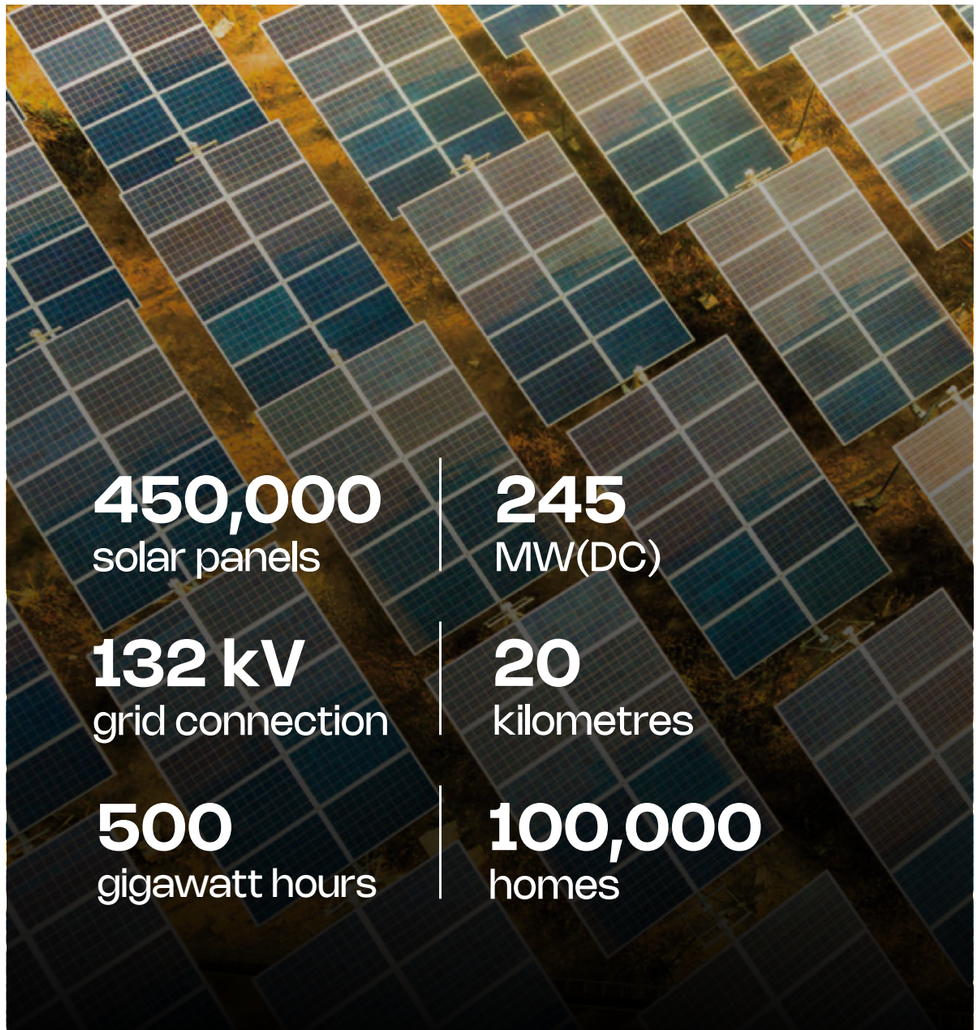
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Case Study

Avonlie Solar Farm

The Avonlie Solar Farm is a large solar generation facility located in Narrandera, New South Wales. The project features over 450,000 solar panels and has a total energy output capacity of approximately 245 MW (DC). Development approval was granted by the Department of Planning & Environment in August 2019, and siteworks commenced in early December 2021, with initial energisation planned for mid-2023. The farm is connected to a dual 132 kV grid connection that passes through the project site, about 20 kilometers south of Narrandera.

Once operational, the Avonlie Solar Farm is expected to generate approximately 500 gigawatt-hours of renewable energy annually. This will provide a growing customer base with a diversified supply of low-cost, clean energy, enough to power 100,000 homes.





Generated Energy Purchase (PPA)

The purchaser of this green-generated power is CleanCo, a Queensland government-owned entity. CleanCo aims to put downward pressure on electricity prices and facilitate the integration of renewable generation and storage. The organization has set a target to support 1.4 GW of new renewable generation by 2025, contributing to Queensland's goal of achieving 50% renewable energy by 2030.

The Owner and Developer

The owner and developer of the farm is Iberdrola Australia Limited, which is 100% owned by Iberdrola Renewables International, S.A.U. Iberdrola is the world's largest producer of wind power by volume and one of the largest electricity utilities globally by market capitalization. With over 55 GW of installed capacity, Iberdrola provides energy to 34 million customer billing points worldwide.

EPC Contractor

The EPC contractor for this project is Beon Energy Solutions, a leader in deploying large-scale renewable energy and infrastructure projects. With extensive expertise in design, construction, and maintenance, Beon has an impressive track record of partnering with clients to reduce costs and project timelines, leading to faster commissioning without compromising safety and quality. Their experience includes the construction of nearly 2 GW of renewable generation assets and ongoing operations and maintenance of numerous solar farms.

Distributor Partner

Nexans' distribution partner is the AWM Electrical Group, established in 1916 as a trade wholesale distribution business. With over 400 warehouses across Australia, the AWM Mansfield branch plays a crucial role in the renewable energy sector as both a buying and project management agent. For the Avonlie Solar Farm project, in collaboration with AWM Mansfield, Nexans supplied 162 km of 33 kV MV cables and 613 km of 1500/1800 V DC cables, all manufactured at the Nexans Shandong factory in China.

All underground cables incorporated the Nexans ECOTERM™ termite barrier solution. ECOTERM™ provides a unique, environmentally friendly, and chemically free termite protection solution for the project, while also facilitating installation with reduced bend radii.

SOLAR POWER

POWER GENERATION

SOLAR PV

WE DELIVER THE BEST SOLUTIONS TO SUPPORT YOUR PROJECT NEEDS

07/2025

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