

Tunnel Emergency & Ventilation Cables

NORTH EUROPE



TUNNEL CABLES

ATNL MV 750 10kV – Fire Resistant Tunnel Cable

Application

Specially designed fire resistant MV cable.

Fixed installation for medium voltage (MV) power in tunnels where the circuit integrity has to be maintained during a fire. The cable is UV /sunlight resistant and has an extra protection against oil and diesel. Halogen free cables are recommended to avoid dense smoke and corrosive gasses in case of overheating or a fire.

The cable has RED sheath.

ATNL 1000 1kV – Armoured Tunnel Cable - Ventilation

Application

For installation in tunnels with voltages up to 1kV, where the circuit integrity has to be maintained during a fire. **Especially designed for ventilation systems.** Cu-shield has 100% optical coverage, has low coupling impedance and fulfill the EMC-directive. The cable is UV /sunlight resistant and has an extra protection against oil and diesel. Halogen free cables are recommended to avoid dense smoke and corrosive gasses in case of overheating or a fire.

The cable has ORANGE sheath.

ATN 1000 1kV – Armoured Tunnel Cable - Ventilation

Application

For installation in tunnels with voltages up to 1kV, where the circuit integrity has to be maintained during a fire. **Especially designed for ventilation systems.** The cable is UV /sunlight resistant and has an extra protection against oil and diesel. Halogen free cables are recommended to avoid dense smoke and corrosive gasses in case of overheating or a fire.

The cable has ORANGE sheath.

TNL 1000 1kV – Double insulated Tunnel Cable – Emergency

Application

For installation in tunnels with voltages up to 1kV, where the circuit integrity has to be maintained during a fire. **Especially designed for emergency power systems.** Cu-shield has 100% optical coverage, has low coupling impedance and fulfill the EMC-directive. The cable is UV /sunlight resistant and has an extra protection against oil and diesel. Halogen free cables are recommended to avoid dense smoke and corrosive gasses in case of overheating or a fire.

The cable has ORANGE sheath.

TNL 1kV – Double insulated Tunnel Cable – Emergency cables for pipes/tubes

Application

For installation in tunnels with voltages up to 1kV. **Especially designed for emergency cables for installation in pipes/tubes.** Cu-shield has 100% optical coverage and fulfill the EMC-directive. The cable is UV /sunlight resistant and has an extra protection against oil and diesel. Halogen free cables are recommended to avoid dense smoke and corrosive gasses in case of overheating or a fire.

The cable has BLACK sheath.

TN 1000 1kV – Double insulated Tunnel Kabel – Emergency

Application

For installation in tunnels with voltages up to 1kV, where the circuit integrity has to be maintained during a fire. **Especially designed for emergency power systems.** The cable is UV /sunlight resistant and has an extra protection against oil and diesel. Halogen free cables are recommended to avoid dense smoke and corrosive gasses in case of overheating or a fire.

*The cable has **ORANGE sheath.***

TN 1kV – Double insulated Tunnel Cable – Emergency cables for pipes/tubes

Application

For installation in tunnels with voltages up to 1kV. **Especially designed for emergency cables for installation in pipes/tubes.** The cable is UV /sunlight resistant and has an extra protection against oil and diesel. Halogen free cables are recommended to avoid dense smoke and corrosive gasses in case of overheating or a fire.

*The cable has **BLACK sheath.***

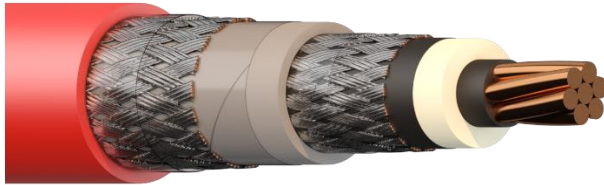
TNL U 1kV – Tunnel Cable – Universal / Multipurpose

Application

For installation in tunnels with voltages up to 1kV. The cable is UV /sunlight resistant and has an extra protection against oil and diesel. Halogen free cables are recommended to avoid dense smoke and corrosive gasses in case of overheating or a fire.

*The cable has **BLUE sheath.***

ATNL MV 750 6/10(12)kV Fire Resistant Tunnel Cable



Fire Resistant halogen-free medium voltage (MV) cable. Oil resistant

ATNL MV 750

6/10(12)kV

EPR/HBC/TCWB/EVA

Operating temperature : 90°C
Operating Voltage : 6/10(12) kV

Standards applied

Design	IEC 60502-2
Conductor	IEC 60228 class 2
Insulation	IEC 60502-2
Armour	IEC 60092-354
Sheath	IEC 60092-360
Fire resistant	IEC 60331-21 (750°C / 2 hours)
Flame Retardant	IEC 60332-1-2
Flame Retardant	IEC 60332-3-22
Halogen Free	IEC 60754-1,2/IEC 60684-2
Low Smoke	IEC 61034-1,2
Oil resistant	IEC 60502-2 (IRM 902 and IRM 903, 30%)
UV resistant	ISO 4892 part 3

Application

Specially designed fire resistant MV cable. Fixed installation for medium voltage (MV) power in tunnels where the circuit integrity needs to be maintained during a fire. Cable are UV resistant and have extra protection against oil and diesel. [Expected lifetime atleast 50 years](#)

Construction

Conductor	Stranded and compressed copper, IEC 60228 class 2
Conductor screen semiconductive	Semi-conductive layer (EP-rubber)
Insulation	EP-rubber, IEC 60092-360 (EPR)
Insulation screen semiconductive	Semi-conductive layer (EP-rubber) Semi-conductive tape
Metallic screen	Tinned copper wire braid
Tape over screen	PET tape
Lay up	Single core cables.
Inner covering	Flame retardant and halogenfree thermoset compound
Tape over inner covering	PET tape
Armour	Tinned annealed copper wire braid
Tape over armour	PET tape + Fire Resistant tape
Heat Block Barrier	Extruded Heat Block Compound

Subject to change without prior notice

ATNL MV 750 6/10(12)kV Fire Resistant Tunnel Cable

Tape over Heat Block Barrier	Fire resistant tape
Outer sheath	Flame retardant, halogen-free and oil resistant thermoset compound, SHF2 (IEC 60092-360)
Marking text	E.g. "meter" "year/week" DRAKA 01 Part no. <SAP-code> ATNL MV 750 6/10(12)kV 1 x 120/16 mm ² IEC 60502-2 IEC 60331-21 (750°C) IEC 60332-3-22 Production no. <Production order number>
Manufacturing unit	DRAKA 01 = Draka Norsk Kabel AS
Outer sheath colour	Red

Range and dimensions

Number of elements	Cross section core, mm ²	Electrical Cross section braided armour, mm ²	Conductor Diameter, mm	Insulation Thickness, mm	Thickness Inner covering, mm	Diameter inner covering, mm	Diameter Braid Wire, mm	Thickness of Heat Block Barrier, mm	Thickness Outer Sheath, mm	Diameter outer sheath, mm	Weight of Cable Approx. (Kg/Km)	Copper content Approx. (kg/km)
1	95	16	11.4	3.4	1.1	24.9 ± 1	0.30	5.0	2.0	41.6 ± 2	3090	1200
1	120	16	12.7	3.4	1.1	26.2 ± 1	0.30	5.0	2.0	42.9 ± 2	3380	1405
1	150	16	14.2	3.4	1.2	27.9 ± 1	0.30	5.0	2.1	44.8 ± 2	3815	1680
1	185	16	16.1	3.4	1.2	29.8 ± 1	0.30	5.0	2.2	46.9 ± 2	4300	2013
1	240	25	18.5	3.4	1.2	32.2 ± 1.5	0.40	5.0	2.2	49.6 ± 2	5170	2702
1	300	25	20.6	3.4	1.2	34.3 ± 1.5	0.40	5.0	2.3	51.9 ± 2.5	5910	3265

Ordering information

New Part number	Description	Sheath Colour	Stock item	EAN No. DNK	EL No.
20183961	ATNL MV 750 12KV 1X 95/16mm ² RD	RED	-	7021528876734	1095290
20183962	ATNL MV 750 12KV 1X 120/16mm ² RD	RED	-	7021528876741	1095291
20183963	ATNL MV 750 12KV 1X 150/16mm ² RD	RED	-	7021528876758	1095292
20183964	ATNL MV 750 12KV 1X 185/16mm ² RD	RED	-	7021528876765	1095293
20183965	ATNL MV 750 12KV 1X 240/25mm ² RD	RED	-	7021528876772	1095294
20183966	ATNL MV 750 12KV 1X 300/25mm ² RD	RED	-	7021528876789	1095295

Electrical values power cables

Number of elements	Cross section core, mm ²	Electrical Cross section braid, mm ²	Max. conductor resistance at 20°C, Ohm/km	Max. conductor resistance at 90°C, Ohm/km	Reactance at 50Hz, Ohm/km	Reactance at 60Hz, Ohm/km	Capacitans per phase, nF/km	Current rating IEC 60092-352 Table B.4, Ampere	Short circuit rating 1 second, Ampere
1	95	16	0.195	0.249	0,137	0,164	380	293	13300
1	120	16	0.154	0.196	0,136	0,163	410	339	16800
1	150	16	0.126	0.161	0,129	0,155	450	389	21000
1	185	16	0.100	0.128	0,124	0,149	480	444	25900
1	240	25	0.0762	0.0972	0,119	0,143	540	522	33600
1	300	25	0.0607	0.0774	0,114	0,137	590	601	42000

ATNL MV 750 6/10(12)kV Fire Resistant Tunnel Cable

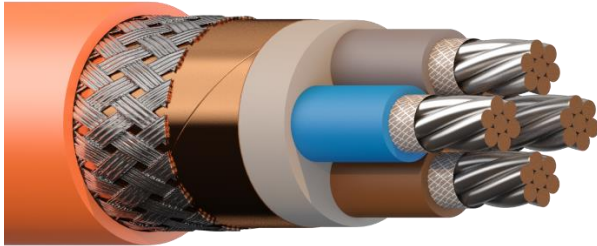
Ambient temperature correction factors

Ambient Temp °C	35	40	45	50	55	60	65	70	75	80
Rating factor	1.10	1.05	1.00	0.94	0.88	0.82	0.74	0.67	0.58	0.47

Installation recommendations

Minimum Bending Radius during Installation	Minimum Bending Radius Fixed Installed	Maximum Tensile Load During Installation	Minimum Installation Temperature
18 x D	12 x D	50 N x total cross section (mm ²) of conductors	-20°C

ATNL 1000 1kV - Armoured Tunnel Cable - Ventilation



Halogen free, Low Smoke, Oil-resistant and Fire Resistant (1000°C / 3 hours)

Max conductor temperature: 90°C
 Voltage rating U_0/U : 0,6/1kV
 CENELEC designation:

This drawing is for indication only and may not necessarily be 100% correct according to design, number of cores and colour.

Application

For installation in tunnels with voltages up to 1kV, where the circuit integrity has to be maintained during a fire. **Especially designed for ventilation systems.** Cu-shield has 100% optical coverage, has low coupling impedance and fulfill the EMC-directive. The cable is UV /sunlight resistant and has an extra protection against oil and diesel. Halogen free cables are recommended to avoid dense smoke and corrosive gasses in case of overheating or a fire.

Expected lifetime atleast 50 years

Standards

Construction: IEC 60502-1
 Conductor: IEC 60228 class 2
 Insulation: IEC 60502-1
 Armour: IEC 60092-353
 Sheath: IEC 60092-360
 Fire resistance: IEC 60331-21 (1000°C / 3 hours)
 Flame retardant: IEC 60332-3-22 (Cat A) and IEC 60332-1-2
 Halogen free: IEC 60754-1 / - 2 IEC 60684-2
 Low smoke: IEC 61034 -1 / -2
 Cold resistance HD 604-5D (-25°C)
 Oil resistance IEC 60502-1 (IRM 902 & IRM 903, 30%)
 UV resistance ISO 4892 part 3

Construction	
Conductor	Stranded tinned copper, Class 2 circular, IEC 60228
Insulation	Mica-tape + EPR
Insulation colours	3X = Brown - Black - Grey 4X = Blue - Brown - Black - Grey 4G = Yellow/Green - Brown - Black - Grey
Inner covering	Halogen free extruded compound
EMC screen / Armour (PE/PEN conductor)	Copper/PET tape under the tinned copper wire braided armour
Outer sheath	Halogen free Compound
Colour	Orange
Sheath Marking	Printed with cable type and dimensions. Meter marking and year of production. Cable type is marked as ATNL 1000
Delivery	Wooden drums

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Subject to changes without prior notice.

ATNL 1000 1kV - Armoured Tunnel Cable - Ventilation

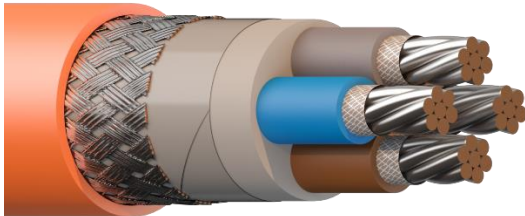
No. of cores and cross-section mm ²	Conductor type)	Overall diameter mm	Weight pr 1000 m ca. kg	Part. no.	EI number (Norway only)
3 x 16/16	FR	23,5 ± 1	1180	20196678	1095370
3 x 25/16	FR	27,5 ± 1	1650	20196679	1095371
3 x 35/16	FR	29,5 ± 1	1950	20196680	1095372
3 x 50/25	FR	34 ± 1,5	2610	20196681	1095373
3 x 70/35	FR	38,5 ± 1,5	3620	20196682	1095374
3 x 95/50	FR	43,5 ± 2,0	4690	20196683	1095375
4 x 16/16	FR	25,5 ± 1,0	1405	20181657	1095250
4 x 25/16	FR	30 ± 1,5	1980	20181658	1095251
4 x 35/16	FR	32,5 ± 1,5	2420	20181659	1095252
4 x 50/25	FR	37,5 ± 1,5	3240	20181660	1095253
4 x 70/35	FR	42,5 ± 2,0	4450	20181661	1095254
4 x 95/50	FR	48 ± 2,0	5790	20181662	1095255
4 G 16	FR	25,5 ± 1,0	1380	20183974	1095256
4 G 25	FR	30 ± 1,5	1980	20183975	1095257
4 G 35	FR	32,5 ± 1,5	2420	20183976	1095258
4 G 50	FR	37,5 ± 1,5	3190	20183977	1095259
4 G 70	FR	42,5 ± 2,0	4410	20183978	1095260
4 G 95	FR	48 ± 2,0	5700	20183979	1095261

FR = stranded circular

Deliver form and delivery length may be changed.
Not all sizes are stocked items.

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ATN 1000 1kV - Armoured Tunnel Cable - Ventilation



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Application

For installation in tunnels with voltages up to 1kV, where the circuit integrity has to be maintained during a fire. **Especially designed for ventilation systems.** The cable is UV /sunlight resistant and has an extra protection against oil and diesel. Halogen free cables are recommended to avoid dense smoke and corrosive gasses in case of overheating or a fire.

Expected lifetime atleast 50 years

Halogen free, Low Smoke, Oil-resistant and Fire Resistant (1000°C / 3 hours)

Max conductor temperature: 90°C
Voltage rating U_0/U : 0,6/1kV
CENELEC designation:

Standards

Construction: IEC 60502-1
Conductor: IEC 60228 class 2
Insulation: IEC 60502-1
Armour: IEC 60092-353
Sheath: IEC 60092-360
Fire resistance: IEC 60331-21 (1000°C / 3 hours)
Flame retardant: IEC 60332-3-22 (Cat A) and IEC 60332-1-2
Halogen free: IEC 60754-1 / - 2 IEC 60684-2
Low smoke: IEC 61034 -1 / -2
Cold resistance HD 604-5D (-25°C)
Oil resistance IEC 60502-1 (IRM 902 & IRM 903, 30%)
UV resistance ISO 4892 part 3

Construction	
Conductor	Stranded tinned copper, Class 2 circular, IEC 60228
Insulation	Mica-tape + EPR
Insulation colours	3X = Brown - Black - Grey 4X = Blue - Brown - Black - Grey 4G = Yellow/Green - Brown - Black - Grey
Inner covering	Halogen free extruded compound
Armour (PE/PEN conductor)	Tinned copper wire braided armour
Outer sheath	Halogen free Compound
Colour	Orange
Sheath Marking	Printed with cable type and dimensions. Meter marking and year of production. Cable type is marked as ATN 1000
Delivery	Wooden drums

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ATN 1000 1kV - Armoured Tunnel Cable - Ventilation

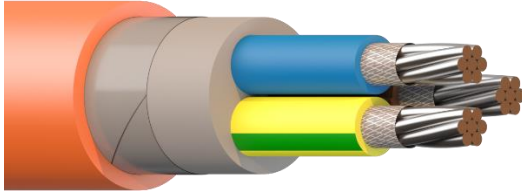
No. of cores and cross-section mm ²	Conductor type)	Overall diameter mm	Weight pr 1000 m ca. kg	Part. no.	EI number (Norway only)
3 x 16/16	FR	23,5 ± 1	1160	20197625	1095377
3 x 25/16	FR	27,5 ± 1	1620	20197626	1095378
3 x 35/16	FR	29,5 ± 1	1920	20197627	1095379
3 x 50/25	FR	34 ± 1,5	2580	20197628	1095380
3 x 70/35	FR	39 ± 1,5	3610	20197629	1095381
3 x 95/50	FR	43,5 ± 2	4660	20197630	1095382
4 x 16/16	FR	25 ± 1	1385	20197606	1095383
4 x 25/16	FR	30 ± 1,5	1955	20197608	1095384
4 x 35/16	FR	32,5 ± 1,5	2400	20197610	1095385
4 x 50/25	FR	37,5 ± 1,5	3210	20197613	1095386
4 x 70/35	FR	42,5 ± 2	4420	20197615	1095387
4 x 95/50	FR	48 ± 2	5770	20197618	1095388
4 G 16	FR	25 ± 1	1360	20197619	1095389
4 G 25	FR	30 ± 1,5	1960	20197620	1095390
4 G 35	FR	32,5 ± 1,5	2400	20197621	1095391
4 G 50	FR	37,5 ± 1,5	3160	20197622	1095392
4 G 70	FR	42,5 ± 2	4340	20197623	1095393
4 G 95	FR	48 ± 2	5670	20197624	1095394

FR = stranded circular

Deliver form and delivery length may be changed.
Not all sizes are stocked items.

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TN 1000 1kV - Double insulated Tunnel Cable - Emergency



This drawing is for indication only and may not necessarily be 100% correct according to design, number of cores and colour.

Application

For installation in tunnels with voltages up to 1kV, where the circuit integrity has to be maintained during a fire. **Especially designed for emergency power systems.** The cable is UV /sunlight resistant and has an extra protection against oil and diesel. Halogen free cables are recommended to avoid dense smoke and corrosive gasses in case of overheating or a fire.

Expected lifetime atleast 50 years

Unarmoured, Halogen free, Low Smoke, Oil-resistant and Fire Resistant (1000°C / 3 hours)

Max conductor temperature: 90°C
 Voltage rating U₀/U: 0,6/1kV
 CENELEC designation:

Standards

Construction: IEC 60502-1
 Conductor: IEC 60228 class 2
 Insulation: IEC 60502-1
 Sheath: IEC 60092-360
 Fire resistance: IEC 60331-21 (1000°C / 3 hours)
 Flame retardant: IEC 60332-3-22 (Cat A) and IEC 60332-1-2
 Halogen free: IEC 60754-1 / - 2 IEC 60684-2
 Low smoke: IEC 61034 -1 / -2
 Cold resistance HD 604-5D (-25°C)
 Oil resistance IEC 60502-1 (IRM 902 & IRM 903, 30%)
 UV resistance ISO 4892 part 3

Construction	
Conductor	Stranded tinned copper, Class 2 circular, IEC 60228
Insulation	Mica-tape + EPR
Insulation colours	3G = Yellow/Green - Blue - Brown 5G = Yellow/Green - Blå - Brun - Sort - Grå
Inner covering	Halogen free extruded compound
Tape	Halogen free tape
Outer sheath	Halogen free Compound
Colour	Orange
Sheath Marking	Printed with cable type and dimensions. Meter marking and year of production. Cable type is marked as TNL 1000
Delivery	Wooden drums



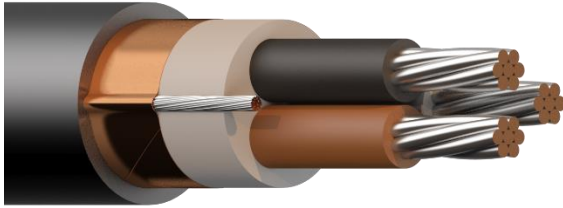
TN 1000 1kV - Double insulated Tunnel Cable - Emergency

No. of cores and cross-section mm ²	Conductor type (*)	Overall diameter mm	Weight pr 1000 m ca. kg	Part. no.	EI number (Norway only)
3G 2,5	FR	15,5 ± 0,8	360	20197658	1095357
3G 4	FR	17 ± 0,8	450	20197659	1095358
3G 6	FR	18 ± 0,8	540	20197660	1095359
3G 10	FR	20 ± 1,0	710	20197661	1095360
3G 16	FR	22 ± 1,0	970	20197667	1095361
3G 25	FR	26,5 ± 1,0	1440	20197668	1095362
5G 2,5	FR	18 ± 0,8	485	20197662	1095363
5G 4	FR	19,5 ± 0,8	615	20197663	1095364
5G 6	FR	21 ± 1,0	765	20197664	1095365
5G 10	FR	23,5 ± 1,0	1030	20197665	1095366
5G 16	FR	26,5 ± 1,0	1450	20197666	1095367
5G 25	FR	31,5 ± 1,5	2140	20197669	1095368

FR = stranded circular

Deliver form and delivery length may be changed.
Not all sizes are stocked items.

TNL 1kV - Double insulated Tunnel Cable – Emergency cables for pipes/tubes



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Application

For installation in tunnels with voltages up to 1kV. **Especially designed for emergency cables for installation in pipes/tubes.** Cu-shield has 100% optical coverage and fulfill the EMC-directive. The cable is UV /sunlight resistant and has an extra protection against oil and diesel. Halogen free cables are recommended to avoid dense smoke and corrosive gasses in case of overheating or a fire.

Expected lifetime atleast 50 years

Unarmoured, Halogen free, Low Smoke, Oil-resistant and Flame retardant

Max conductor temperature: 90°C
Voltage rating U_0/U : 0,6/1kV
CENELEC designation:

Standards

Construction: IEC 60502-1
Conductor: IEC 60228 class 2
Insulation: IEC 60502-1
Sheath: IEC 60092-360
Flame retardant: IEC 60332-3-22 (Cat A) and IEC 60332-1-2
Halogen free: IEC 60754-1 / -2 IEC 60684-2
Low smoke: IEC 61034 -1 / -2
Cold resistance HD 604-5D (-25°C)
Oil resistance IEC 60502-1 (IRM 902 & IRM 903, 30%)
UV resistance ISO 4892 part 3

Oppbygging

Conductor	Stranded tinned copper, Class 2 circular, IEC 60228
Insulation	EPR
Insulation colours	2X = Blue – Brown 3G = Yellow/Green – Blue – Brown 4X = Blue – Brown – Black – Grey 5G = Yellow/Green – Blue – Brown – Black - Grey
Inner covering	Halogen free extruded compound
EMC protection	Copper/PET tape with tinned flexible copper drain wire
Outer sheath	Halogen free Compound
Colour	Black
Sheath Marking	Printed with cable type and dimensions. Meter marking and year of production. Cable type is marked as TNL
Delivery	Wooden drums

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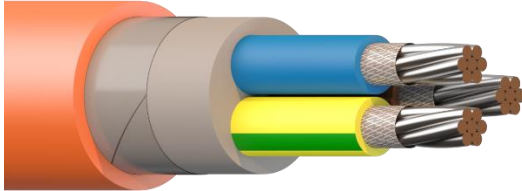
TNL 1kV - Double insulated Tunnel Cable – Emergency cables for pipes/tubes

No. of cores and cross-section mm ²	Conductor type *)	Overall diameter mm	Weight pr 1000 m ca. kg	Part. no.	EI number (Norway only)
2X 6	FR	16,5 ± 0,8	470	20203528	1095316
2X 10	FR	18,5 ± 0,8	605	20203529	1095317
3G 2,5	FR	15,0 ± 0,8	365	20183989	1095320
3G 4	FR	16 ± 0,8	450	20183990	1095321
3G 6	FR	17,5 ± 0,8	540	20183991	1095322
3G 10	FR	19,5 ± 0,8	720	20183992	1095323
3G 16	FR	22 ± 1	985	20196670	1095335
3G 25	FR	26 ± 1	1430	20196671	1095336
4X 6	FR	18,5 ± 0,8	640	20203530	1095318
4X 10	FR	21 ± 1	865	20203531	1095319
5G 2,5	FR	17 ± 0,8	480	20183993	1095324
5G 4	FR	18,5 ± 0,8	610	20183994	1095325
5G 6	FR	20 ± 1	750	20183995	1095326
5G 10	FR	23 ± 1	1035	20183996	1095327
5G 16	FR	26 ± 1	1450	20183997	1095328
5G 25	FR	31 ± 1	2110	20183998	1095329
5G 35	FR	33,5 ± 1	2590	20183999	1095330
5G 50	FR	40 ± 1,5	3590	20184000	1095331

FR = stranded circular

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TN 1000 1kV - Double insulated Tunnel Cable - Emergency



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Expected lifetime atleast 50 years

Unarmoured, Halogen free, Low Smoke, Oil-resistant and Fire Resistant (1000°C / 3 hours)

Max conductor temperature: 90°C
 Voltage rating U₀/U: 0,6/1kV
 CENELEC designation:

Standards

Construction: IEC 60502-1
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 Fire resistance: IEC 60331-21 (1000°C / 3 hours)
 Flame retardant: IEC 60332-3-22 (Cat A) and IEC 60332-1-2
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 Low smoke: IEC 61034 -1 / -2
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 Oil resistance IEC 60502-1 (IRM 902 & IRM 903, 30%)
 UV resistance ISO 4892 part 3

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Insulation	Mica-tape + EPR
Insulation colours	3G = Yellow/Green - Blue - Brown 5G = Yellow/Green - Blå - Brun - Sort - Grå
Inner covering	Halogen free extruded compound
Tape	Halogen free tape
Outer sheath	Halogen free Compound
Colour	Orange
Sheath Marking	Printed with cable type and dimensions. Meter marking and year of production. Cable type is marked as TNL 1000
Delivery	Wooden drums

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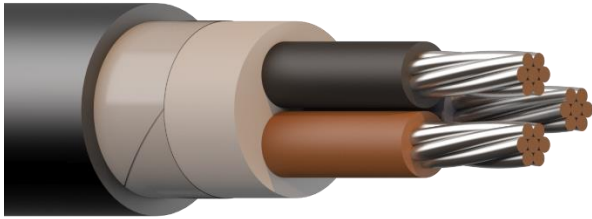
TN 1000 1kV - Double insulated Tunnel Cable - Emergency

No. of cores and cross-section mm ²	Conductor type)	Overall diameter mm	Weight pr 1000 m ca. kg	Part. no.	EI number (Norway only)
3G 2,5	FR	15,5 ± 0,8	360	20197658	1095357
3G 4	FR	17 ± 0,8	450	20197659	1095358
3G 6	FR	18 ± 0,8	540	20197660	1095359
3G 10	FR	20 ± 1,0	710	20197661	1095360
3G 16	FR	22 ± 1,0	970	20197667	1095361
3G 25	FR	26,5 ± 1,0	1440	20197668	1095362
5G 2,5	FR	18 ± 0,8	485	20197662	1095363
5G 4	FR	19,5 ± 0,8	615	20197663	1095364
5G 6	FR	21 ± 1,0	765	20197664	1095365
5G 10	FR	23,5 ± 1,0	1030	20197665	1095366
5G 16	FR	26,5 ± 1,0	1450	20197666	1095367
5G 25	FR	31,5 ± 1,5	2140	20197669	1095368

FR = stranded circular

Deliver form and delivery length may be changed.
Not all sizes are stocked items.

TN 1kV - Double insulated Tunnel Cable – Emergency cables for pipes/tubes



This drawing is for indication only and may not necessarily be 100% correct according to design, number of cores and colour..

Application

For installation in tunnels with voltages up to 1kV. **Especially designed for emergency cables for installation in pipes/tubes.** The cable is UV /sunlight resistant and has an extra protection against oil and diesel. Halogen free cables are recommended to avoid dense smoke and corrosive gasses in case of overheating or a fire.

Expected lifetime atleast 50 years

Unarmoured, Halogen free, Low Smoke, Oil-resistant and Flame retardant

Max conductor temperature: 90°C
Voltage rating U₀/U: 0,6/1kV
CENELEC designation:

Standards

Construction: IEC 60502-1
Conductor: IEC 60228 class 2
Insulation: IEC 60502-1
Sheath: IEC 60092-360
Flame retardant: IEC 60332-3-22 (Cat A) and IEC 60332-1-2
Halogen free: IEC 60754-1 / - 2 IEC 60684-2
Low smoke: IEC 61034 -1 / -2
Cold resistance: HD 604-5D (-25°C)
Oil resistance: IEC 60502-1 (IRM 902 & IRM 903, 30%)
UV resistance: ISO 4892 part 3

Oppbygging	
Conductor	Stranded tinned copper, Class 2 circular, IEC 60228
Insulation	EPR
Insulation colours	3G = Yellow/Green – Blue – Brown 5G = Yellow/Green – Blue – Brown – Black - Grey
Inner covering	Halogen free extruded compound
Tape	Halogen free tape
Outer sheath	Halogen free Compound
Colour	Black
Sheath Marking	Printed with cable type and dimensions. Meter marking and year of production. Cable type is marked as TN
Delivery	Wooden drums

CE
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TN 1kV - Double insulated Tunnel Cable – Emergency cables for pipes/tubes

No. of cores and cross-section mm ²	Conductor type *)	Overall diameter mm	Weight pr 1000 m ca. kg	Part. no.	EI number (Norway only)
3G 2,5	FR	15 ± 0,8	335	20197673	1095297
3G 4	FR	16,0 ± 0,8	420	20197674	1095298
3G 6	FR	17 ± 0,8	515	20197675	1095299
3G 10	FR	19 ± 0,8	690	20197676	1095303
3G 16	FR	21,5 ± 1	950	20197685	1095304
3G 25	FR	26 ± 1	1390	20197686	1095305
5G 2,5	FR	17,0 ± 0,8	450	20197677	1095306
5G 4	FR	18,5 ± 0,8	580	20197678	1095307
5G 6	FR	20,0 ± 1	720	20197679	1095308
5G 10	FR	22,5 ± 1	1000	20197680	1095309
5G 16	FR	25,5 ± 1	1410	20197681	1095310
5G 25	FR	30,5 ± 1,5	2070	20197682	1095311
5G 35	FR	33,5 ± 1,5	2550	20197683	1095312
5G 50	FR	39,5 ± 1,5	3550	20197684	1095313

FR = stranded circular

Deliver form and delivery length may be changed.
Not all sizes are stocked items.

TNL U 1kV - Tunnel Cable - Universal / Multipurpose



This drawing is for indication only and may not necessarily be 100% correct according to design, number of cores and colour.

Application

For installation in tunnels with voltages up to 1kV. The cable is UV /sunlight resistant and has an extra protection against oil and diesel. Halogen free cables are recommended to avoid dense smoke and corrosive gasses in case of overheating or a fire.

Unarmoured, Halogen free, Low Smoke, Oil-resistant and flame retardant

Max conductor temperature: 90 °C
Voltage rating U₀/U: 0,6/1kV
CENELEC designation:

Standards

Construction: IEC 60502-1
Conductor: IEC 60228 class 2
Insulation: IEC 60502-1
Sheath: IEC 60092-360
Flame retardant: IEC 60332-3-22 (Cat A) and IEC 60332-1-2
Halogen free: IEC 60754-1 / - 2 IEC 60684-2
Low smoke: IEC 61034 -1 / -2
Cold resistance HD 604-5D (-25 °C)
Oil resistance IEC 60502-1 (IRM 902 & IRM 903, 30%)
UV resistance ISO 4892 part1 3

Construction	
Conductor	Stranded tinned copper, Class 2 circular, IEC 60228
Insulation	EPR
Insulation colours	3G = Yellow/Green - Blue - Brown 5G = Yellow/Green - Blue - Brown - Black - Grey
Outer sheath	Halogen free Compound
Colour	Blue
Sheath Marking	Printed with cable type and dimensions. Meter marking and year of production. Cable type is marked as TNL U
Delivery	Wodden drums

CE

Afumex[®]

TNL U 1kV - Tunnel Cable - Universal / Multipurpose

No. of cores and cross-section mm ²	Conductor type)	Overall diameter mm	Weight pr 1000 m ca. kg	Part. no.	EI number (Norway only)
3G 2.5	FR	12 ± 0,8	245	20184200	1095340
3G 4	FR	13,5 ± 0,8	315	20184271	1095341
3G 6	FR	14,5 ± 0,8	405	20183967	1095342
3G 10	FR	16,5 ± 0,8	565	20196672	1095354
3G 16	FR	19 ± 0,8	815	20196673	1095355
3G 25	FR	23 ± 1	1220	20196674	1095356
5G 2.5	FR	14,5 ± 0,8	350	20183968	1095343
5G 4	FR	16 ± 0,8	460	20183969	1095344
5G 6	FR	17,5 ± 0,8	595	20183970	1095345
5G 10	FR	20 ± 1	850	20183971	1095346
5G 16	FR	23 ± 1	1240	20183972	1095347
5G 25	FR	28 ± 1	1865	20183973	1095348
5G 35	FR	30,5 ± 1,5	2320	20184272	1095349
5G 50	FR	35,5 ± 1,5	3150	20184273	1095350
5G 70	FR	40,9 ± 2	4400	20184274	1095351
5G 95	FR	47 ± 2	5880	20184275	1095352
5G 150	FR	58 ± 2,5	9390	20184276	1095353

FR = stranded circular

Deliver form and delivery length may be changed.
Not all sizes are stocked items.

Linking the future

Prysmian Group Denmark A/S

Roskildevej 22
2620 Albertslund
Denmark

Sales

+45 60 39 27 39
+45 60 39 26 29

dk-ti-sales@prysmiangroup.com

www.prysmiangroup.dk

Prysmian Group Finland Oy

Kaapelitie 68
02490 Pikkala

Johdintie 5
90620 Oulu

Sales

+35 010 5661

fi-info@prysmiangroup.com

www.prysmiangroup.fi

Prysmian Group Sweden AB

Vallgatan 5
57141 Nässjö
Sweden

Sales

+46 38 055 42 09
+46 38 055 42 08

info.se@prysmiangroup.com
order.se@prysmiangroup.com
offert.se@prysmiangroup.com

www.draka.se

Prysmian Group Norway AS

Postboks 369 Bragernes
3001 Drammen
Norway

Sales

+47 32 24 90 00

no-kundesenter@
prysmiangroup.com

www.prysmiangroup.no

Prysmian Group Estonia AS

Paldiski mnt. 31
76606 Keila
Estonia

Sales

+371 9272 731 (Latvia)
+370 6 187 4 384 (Lithuania)

info.keila@prysmiangroup.com

www.drakakeila.ee